



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

400 Seventh Street, S.W.  
Washington, D.C. 20590

Dear Crash Data Researchers/Users:

Thank you for choosing crash data from the National Highway Traffic Safety Administration (NHTSA) for your research or other use. The information contained in this motor vehicle crash report is collected, maintained and distributed in accordance with Public Law 89-564. In accordance with this Public Law, NHTSA is required not to release any case information until completion of quality control procedures. These procedures include a review of the case material to extract all names, licenses and registration numbers, non-coded interview material, non-research related researcher comments in the margins, non-factual data, and the production number portion of the vehicle identification number (VIN).

If you requested NHTSA to query its database files in order to identify a specific crash, then that query was made using non-personal descriptors you provided for use in our search. This motor vehicle crash may have been identified from a data search and matches the general, non-personal descriptors you provided, but we cannot confirm that this is the specific crash report you requested.

If you have any questions with regard to the above procedures, please contact the Field Operations Branch, Crash Investigation Division, National Center for Statistics and Analysis at 202-366-4820. Again, please be advised that we cannot confirm that this is the case that you have specifically requested nor can we certify the information to be correct.

\*\*\*    \*\*\*    \*\*\*



AUTO SAFETY HOTLINE  
(800) 424-9393  
Wash. D.C. Area 366-0123

**DYNAMIC SCIENCE, INC.**  
In-Depth Accident Investigation

Contract Number DTNH22-93-P-07049  
Case Number DSI-93-AB-018

, 1994

## TECHNICAL SUMMARY

CONTRACTOR: Dynamic Science, Inc.  
CONTRACT NUMBER: DTNH22-93-P-07049  
CASE NUMBER: DSI-93-AB-018

[REDACTED]  
[REDACTED]  
This two vehicle collision occurred on a two lane, divided, residential roadway, on a summer, weekday afternoon in [REDACTED], Virginia. ([REDACTED]-93) The case was initiated as an alleged airbag non-deployment in a serious crash.

Vehicle 1, a 1991 Toyota Celica 2-door coupe, was being driven by a restrained 29 year old female driver (case occupant). Vehicle 1 was traveling north at an estimated speed of 64 KPH (40 MPH).

Vehicle 2, a 1990 Toyota SR 5 4x4 pickup truck, was being driven by a restrained 40 year old female driver. Vehicle 2 was traveling north and was at a complete stop prior to the impact.

As the driver of Vehicle 1 was traveling north she entered a construction zone. At this point all vehicle traffic was directed to the left travel lane by first a flagman and then orange traffic cones.

The driver of Vehicle 2 was also traveling in the construction zone and had brought her vehicle to a complete stop due to the construction.

Vehicle 1 was traveling at an estimated speed of 64 KPH (40 MPH) when she noticed the vehicles in front of her were at a complete stop. At that time she vigorously applied her brakes and skidded approximately 18.3 meters (60 ft.), striking the rear step bumper of Vehicle 2 with the front leading edge of her hood in an underride configuration.

The Delta V for Vehicle 1 was computed using CRASH III PC as 20 KPH (13 MPH) using a CDC of 12FDEW2 and a PDOF of 005 degrees. The combined direct and induced damage width was 144.0 cm (56.7 in) and the maximum crush depth was averaged at 16.9 cm (6.7 inches) at C<sub>5</sub>. The Delta V for Vehicle 2 was computed as 19 KPH (12 MPH) using a CDC of 06BYLW1 and a PDOF of 185 degrees. The combined direct and induced damage width was 154.0 cm (60.6 in) and a maximum crush depth was 17.0 cm (6.7 in) at C<sub>3</sub>.

The Driver of Vehicle 1 was not injured in the accident.

The Driver of Vehicle 2 was not injured in the accident.

Vehicle 1 was towed from the scene of the collision. Vehicle 2 was driven away from the accident scene by the driver.

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The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration.

The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.



**DYNAMIC SCIENCE, INC.**  
**ACCIDENT INVESTIGATION**  
**CASE NUMBER: DSI-93-AB-018**

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- A. NASS Field Forms
- B. Police Accident Report

**Dynamic Science, Inc.  
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Case Number: DSI-93-AB-018**

**ACCIDENT DATA:**

**Location:** [REDACTED], Virginia  
**Area/Type:** Urban/Residential  
**Date/Time:** Summer/Afternoon  
**Accident Type:** Car/Pickup Truck - Rear End

**INJURY SEVERITY:**

**Vehicle 1:** Driver, no reported injuries  
**Vehicle 2:** Driver, no reported injuries

**AMBIENCE:**

**Viewing Conditions:** No viewing restrictions, but construction area.  
**Cloud Cover:** Clear  
**Precipitation:** None  
**Temperature:** 26 to 29 degrees C  
(80 to 85 degrees F)  
**Road Surface:** Dry/New Asphalt

**Dynamic Science, Inc.  
In-Depth Investigation  
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**ROADWAY:**

	<b>VEHICLE 1</b>	<b>VEHICLE 2</b>
<b>Type:</b>	2-lane, divided*	2-lane, divided*
<b>Width:</b>	7.0 meters (23.0 ft)	7.0 meters (23.0 ft)
<b>Traffic Density:</b>	Medium to heavy, due to construction.	Medium to heavy, due to construction.
<b>Median:</b>	Grass/Raised	Grass/Raised
<b>Edge:</b>	Raised concrete, 15 cm (6 inch)	Raised concrete, 15 cm (6 inch)
<b>Surface:</b>	Asphalt/New	Asphalt/New
<b>Reported Defects:</b>	None	None
<b>Co-efficient of Friction (est.):</b>	f= .85	f= .85
<b>Vertical Alignment:</b>	2 percent upgrade	2 percent upgrade
<b>Horizontal Alignment:</b>	Straight	Straight
	* Only one lane of traffic at time of collision.	* Only one lane of traffic at time of collision.

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**Traffic Controls:**

	<b>VEHICLE 1</b>	<b>VEHICLE 2</b>
<b>Signals:</b>	None	None
<b>Signs:</b>	Cautionary sign, pedestrian crossing	Cautionary sign, pedestrian crossing
<b>Speed Limit:</b>	56 KPH (35 MPH)	56 KPH (35 MPH)
<b>Markings:</b>	None present due to construction.	None present due to construction.

**Dynamic Science, Inc.**  
**In-Depth Investigation**  
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**VEHICLES:**

	<b>VEHICLE 1</b>	<b>VEHICLE 2</b>
<b>Description:</b>	1991 Toyota Celica ST, 2-door coupe	1990 Toyota SR 5 4 x 4 pickup truck
<b>Odometer:</b>	19,857 KM (12,339 mi)	105,066 KM (65,285 mi)
<b>Engine:</b>	I 4/1.6 L	I 4/2.4 L
<b>Vehicle Modifications:</b>	None	None
<b>Tire Condition:</b>	R/F and L/F = 5/32, R/R and L/R = 8/32	R/F and L/F = 7/32, R/R and L/R = 4/32
<b>Manual Restraints:</b>	3-point lap/shoulder at both front and rear seating positions.	3-point lap/shoulder at both front and rear seating positions.( there are two jump seats behind regular seating positions )
<b>Automatic Restraints:</b>	None	None
<b>Reported Defects:</b>	None	None
<b>Cargo:</b>	None	None
<b>Windshield Damage:</b>	None	None
<b>Fleet:</b>	None	None
<b>Tow Status:</b>	Towed due to damage	Driven from scene

**Dynamic Science, Inc.**  
**In-Depth Investigation**  
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**VEHICLE DAMAGE:**

	<b>VEHICLE 1</b>	<b>VEHICLE 2</b>
<b>Object Struck:</b>	Vehicle 2	Vehicle 1
<b>Event Number:</b>	01	01
<b>CDC:</b>	12FDEW2	06BYLW1
<b>Maximum Crush:</b>	Averaged 16.9 cm (6.7 in) at C <sub>5</sub>	17.0 cm (6.7 in) at C <sub>3</sub>

**VEHICLE VELOCITY ESTIMATES:**

	<b>VEHICLE 1</b>	<b>VEHICLE 2</b>
<b>Impact Speed:</b>	24 KPH (15 MPH)	Stopped
<b>Total Delta V:</b>	20 KPH (13 MPH)	19 KPH (12 MPH)
<b>Longitudinal Delta V:</b>	-20 KPH (-13 MPH)	19 KPH (12 MPH)
<b>Lateral Delta V:</b>	-2 KPH (-1 MPH)	-2 KPH (-1 MPH)
<b>Energy Dissipation:</b>	12,500.7 Joules (9,218.8 Ft lbs)	26,863.4 Joules (19,810.8 Ft lbs)

**Calculations based upon:** CRASH III PC and the slide not to a stop formula

**Dynamic Science, Inc.**  
**In-Depth Investigation**  
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**COLLISION SEQUENCE:**

**PRE-CRASH:**

This two vehicle accident occurred during the afternoon hours of a summer weekday on a two-lane, divided, asphalt paved, residential roadway in [REDACTED], Virginia.

The roadway allows travel in a northerly direction. There is a two per-cent upgrade and the roadway is straight. The road is divided by a raised grass median which is used to separate the two northbound lanes from the two southbound lanes. The posted speed limit is 56 KPH (35 MPH).

The area of the collision was under construction so the normal lane markings and crosswalks were not present at the time of the accident. The two northbound lanes measure 7.0 meters (23 ft). The left lane of the roadway where the collision occurred was newly applied asphalt with an estimated coefficient of  $f = .85$  for the dry roadway.

Vehicle 1, a 1991 Toyota Celica ST 2-door coupe, was being driven north at a speed estimated to be 64 KPH (40 MPH) and approaching a construction zone. The restrained 29 year old female driver is the case occupant.

Vehicle 2, a 1990 Toyota SR 5 4 x 4 pickup truck, was being driven north and had entered the construction zone. The 40 year old, restrained, female driver had brought her vehicle to a complete stop because of construction.

**CRASH:**

As Vehicle 1 approached the construction zone she failed to notice that the vehicles directly in front of her had come to a stop. At some point she noticed the stopped vehicles and vigorously applied her brakes. Her vehicle began to skid and slid for 18.3 meters (60 ft) before striking the rear step bumper of Vehicle 2 with the leading edge of her hood in an underride configuration. The Delta V for Vehicle 1 was computed using CRASH III PC as 20 KPH (13 MPH) using a CDC of 12FDEW2 and a PDOF of 005 degrees. The combined direct and induced damage width was 144.0 cm (56.7 in) and the maximum crush depth was 16.9 cm (6.7 in) at  $C_5$ . The Delta V for Vehicle 2 was computed using CRASH III PC as 19 KPH (12 MPH) using a CDC of 06BYLW1 and a PDOF of 185 degrees. The combined direct and induced damage width was 160.0 cm (60.6 in) and the maximum crush depth was 17.0 cm (6.7 in) at  $C_3$ .

**Dynamic Science, Inc.**  
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**POST CRASH:**

At the point of maximum engagement Vehicle 1 began a slight counterclockwise rotation and came to an immediate stop, still lodged under the rear step bumper of Vehicle 2.

At impact Vehicle 2 was knocked a few feet forward and came to final rest with the front of Vehicle 1 under the rear step bumper. Construction workers came and lifted up on the rear of the truck so that Vehicle 1 could be backed away from Vehicle 2 without doing any more damage.

**OCCUPANT KINEMATICS:**

The 29 year old driver of Vehicle 1 was seated in a bucket seat, in a normal upright seated position. The driver's height was 160 cm (63 in) and her weight was 61 KG (135 lbs). The driver was wearing the available 3-point manual lap/shoulder safety restraint. The seat was set at the mid-point and the seat back was at a normal incline. At impact the driver was thrown forward but the lap/shoulder restraints held her in place and free of injury.

The 40 year old driver of Vehicle 2 was seated in a bucket seat, in a normal upright seated position. The driver's height was 165 cm (65 in) and her weight was 57 KG (125 lbs). The driver was wearing the available 3-point manual lap/shoulder safety restraint. The seat was set at the mid-point and the seat back was at a normal incline. At impact the driver was forced to the rear against the seat back, but was not injured.

**AIRBAG SYSTEM:**

Vehicle 1 was equipped with a Supplemental Restraint System (SRS) on the driver's side. It appears that the forces did not exceed the manufacturer's deployment threshold. But, since those thresholds were not made available to DSI a conclusion as to whether the airbag should have deployed could not be made.

**SCENE CLEARANCE:**

The driver of Vehicle 1 (case occupant) did not sustain any injuries.

The driver of Vehicle 2 did not sustain any injuries.



**Dynamic Science, Inc.**  
**In-Depth Investigation**  
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Vehicle 1 was towed from the scene of the collision. Vehicle 2 was driven away by Driver 2.

**SAFETY STANDARDS:**

No violations of the Federal Motor Vehicle Safety Standards were found during vehicle inspection. Vehicle 1 had been involved in a minor side swipe accident a few months prior and the Supplemental Restraint System did not deploy in that case either.

**Dynamic Science, Inc.  
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**DRIVER AND OTHER OCCUPANTS:**

**VEHICLE 1**

**DRIVER**

<b>Age/Sex:</b>	29/Female
<b>Seated Position:</b>	Left front
<b>Seat Type:</b>	Bucket seat
<b>Height:</b>	160 cm (63 in)
<b>Weight:</b>	61 Kg (135 lbs)
<b>Occupation:</b>	Sales representative
<b>Pre-existing Medical Condition:</b>	None known
<b>Alcohol/Drug Involvement:</b>	None
<b>Driving Experience:</b>	11 years
<b>Body Posture:</b>	Normal upright
<b>Hand Position:</b>	Both hands on steering wheel
<b>Foot Position:</b>	Right foot on brake pedal, unknown position of left foot
<b>Restraint Usage:</b>	3-point manual lap/shoulder
<b>Additional Occupants:</b>	None

**Dynamic Science, Inc.  
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**DRIVER AND OTHER OCCUPANTS (con't):**

**VEHICLE 2**

**DRIVER**

<b>Age/Sex:</b>	40 years/Female
<b>Seated Position:</b>	Left front
<b>Seat Type:</b>	Bucket seat
<b>Height:</b>	165 cm (65 in)
<b>Weight:</b>	57 Kg (125 lbs)
<b>Occupation:</b>	Sales representative
<b>Pre-existing Medical Condition:</b>	None known
<b>Alcohol/Drug Involvement:</b>	None
<b>Driving Experience:</b>	20 years
<b>Body Posture:</b>	Normal upright
<b>Hand Position:</b>	Unknown
<b>Foot Position:</b>	Unknown
<b>Restraint Usage:</b>	3-point manual lap/shoulder
<b>Additional Occupants:</b>	None

**Dynamic Science, Inc.  
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**INJURIES:**

**Vehicle 1**

	<b>INJURY</b>	<b>OIC</b>	<b>ICD-9</b>	<b>SOURCE</b>
<b>DRIVER</b>	NO REPORTED INJURIES			

**Vehicle 2**

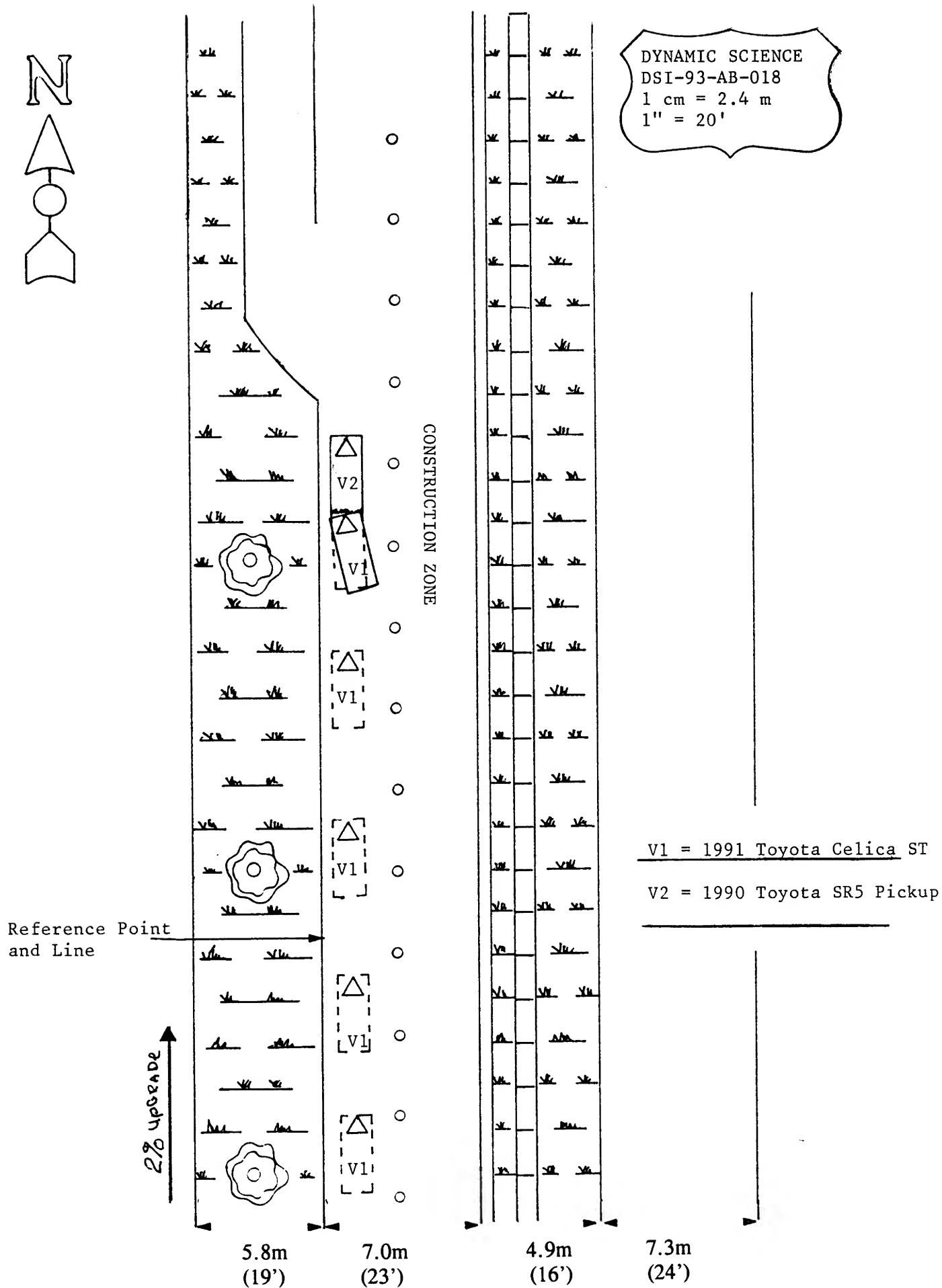
<b>DRIVER</b>	NO REPORTED INJURIES
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## **Abbreviations Used In Scene And Photographic Documentation**

ft.	Feet
in.	Inches
AIS	Abbreviated Injury Scale
BLF	Begin Left Front
BLR	Begin Left Rear
BRF	Begin Right Front
BRR	Begin Right Rear
CBE	Cab Behind Engine
CCW	Counterclockwise
CDC	Collision Deformation Classification
CG	Center of Gravity
CM	Centimeter
COE	Cab Over Engine
CW	Clockwise
E, EB	East, Eastbound
ELF	End Left Front
ELR	End Left Rear
ERF	End Right Front
ERR	End Right Rear
FRP	Final Rest Position
I	Interstate Highway
IP	Intermediate Point
KG	Kilogram
KPH	Kilometers Per Hour
LF	Left Front
LR	Left Rear
M	Meter
N, NB	North, Northbound
NE	Northeast
NW	Northwest
PDOF	Principal Direction of Force
POI	Point of Impact
R	Radius of Curvature
RF	Right Front
RL	Reference Line
RP	Reference Point
RR	Right Rear
S, SB	South, Southbound
SE	Southeast
SW	Southwest
T	Time or Elapsed Time (in seconds)
U.S.	United States Highway
V1	Vehicle Number 1
W, WB	West, Westbound



DYNAMIC SCIENCE  
DSI-93-AB-018  
1 cm = 2.4 m  
1" = 20'



## **COLLISION MEASUREMENTS**

**Case Number DSI-93-AB-018**

Reference Point: Curb line 61 meters (200 ft) North of south intersection

Reference Line: Curb line, west side of roadway of northbound traffic

<b>DATA POINT</b>	<b>LONGITUDINALS</b>	<b>LATERALS</b>
Roadway width, northbound	61 meters ( 200 ft.) North	7 meters (23 ft) East
Road edge	61 meters (200 ft.) North	.7 meters ( 2.2 ft.) East
Service Roadway	61 meters (200 ft.) North	7.3 meters (24 ft.) East
Grass median	61 meters (200 ft.) North	5.8 meters (19 ft.) West

## **PHOTO INDEX**

**Case No. DSI-93-AB-018**

<b>PHOTO NO.</b>	<b>VEHICLE NO.</b>	<b>DIRECTION OF PICTURE</b>	<b>SUBJECT MATTER</b>
1-6	Vehicle 1-2	North	Travel path of both Vehicle 1 and 2
7-8	Vehicle 1	South	Approach path of Vehicle 1
9-24	Vehicle 1	CW	Exterior views, Vehicle 1
25-36	Vehicle 1	---	Interior views, Vehicle 1
37-46	Vehicle 2	CW	Exterior views, Vehicle 2
47-50	Vehicle 2	---	Interior views, Vehicle 2



AB-18-1



AB-18-2



AB-18-3



AB-18-4

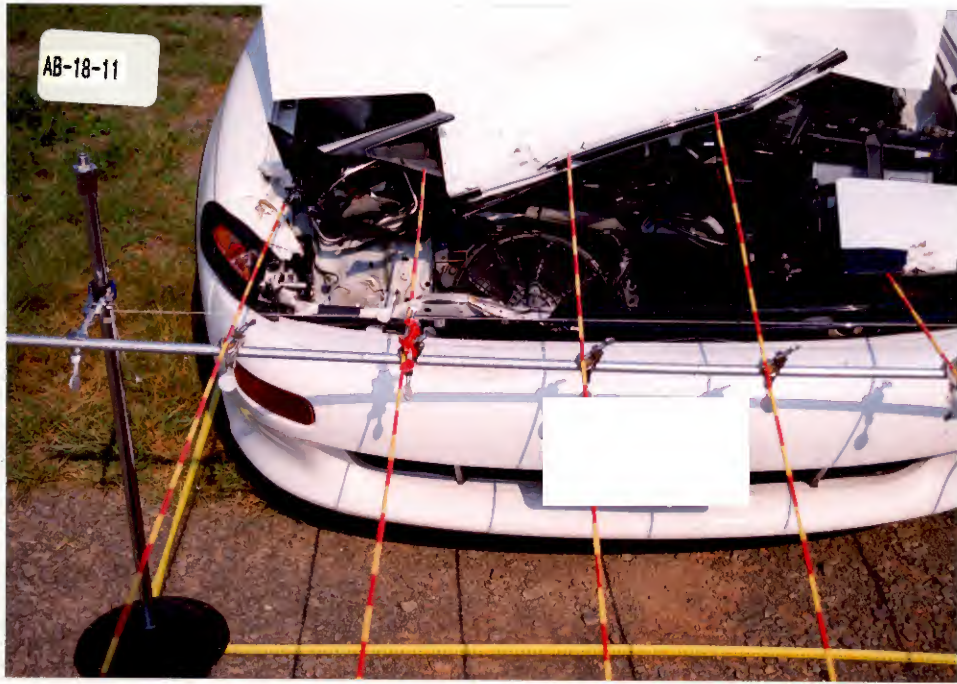
















AB-18-15



AB-18-16

























































## SLIDE INDEX

Case No. DSI-93-AB-018

SLIDE NO.	VEHICLE NO.	DIRECTION OF PICTURE	SUBJECT MATTER
1-6	Vehicle 1-2	North	Travel path of both Vehicle 1 and 2
7-8	Vehicle 1	South	Approach path of Vehicle 1
9-24	Vehicle 1	CW	Exterior views, Vehicle 1
25-36	Vehicle 1	---	Interior views, Vehicle 1
37-46	Vehicle 2	CW	Exterior views, Vehicle 2
47-50	Vehicle 2	---	Interior views, Vehicle 2



DS9316 #1



DS9318 #2



DS9318 #3



DS9318 #4



069318 #5



DS9318 #6



DS9316 #7





DS9318 #8



DS 9318 #9  
Best Available



**DS9318 #10**  
**Best Available**



DS9318 #11  
Best Available



DS9316 #12  
Best Available



**DS9318 #13**  
**Best Available**



DS9318 #14



DS9318 #15





D89318 #16



DS9318 #17



DS9318 #18



**DS9318 #19**  
**Best Available**



DS9318 #20  
Best Available



DS9318 #21



DS9318 #22



DS9318 #23





DS9318 #24



DS9318 #25



DS9318 #26



DS9318 #27



DS9318 #28



DS9318 #29



DS9318 #30



DS9318 #31





DS9318 #32



DS9318 #33



DS9318 #34



DS9318 #35



DS9318 #36



DS9318 #37



D69318 #38



DS9318 #39





DS9318 #40



DS9318 #41



DS9318 #42



DS9318 #43



DS9318 #44



DS9318 #45



DS9318 #46



D89318 #47





DS9318 #48



DS9318 #49



DS9318 #50



## ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

1. Primary Sampling Unit Number \_\_\_\_\_

2. Case Number - Stratum DSF-93-AB-019

### IDENTIFICATION

3. Number of General Vehicle  
Forms Submitted 0 2

4. Date of Accident  
(Month, Day, Year) SUMMER / WEDNESDAY / 9 3

5. Time of Accident AFTER NOON

Code reported military time of accident.

NOTE: Midnight = 2400  
Unknown = 9999

### SPECIAL STUDIES - INDICATORS

Check (✓) each special study (SS14-SS18 below) that has been completed; code 1 for the checked special studies and 0 for the special studies not checked.

6. 0 SS14 Fatal AOPS 0

7. 0 SS15 Administrative Use 0

8. 0 SS16 \_\_\_\_\_ 0

9. 0 SS17 \_\_\_\_\_ 0

10. 0 SS18 \_\_\_\_\_ 0

### NUMBER OF EVENTS

11. Number of Recorded Events  
in This Accident 0 1

Code the number of events which occurred  
in this accident.

### ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right.

Accident Event Sequence Number	Vehicle Number	Class Of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class Of Vehicle	General Area of Damage
12. <u>0 1</u>	13. <u>0 1</u>	14. <u>0 1</u>	15. <u>F</u>	16. <u>0 2</u>	17. <u>1 5</u>	18. <u>B</u>
19. <u>0 2</u>	20. _____	21. _____	22. _____	23. _____	24. _____	25. _____
26. <u>0 3</u>	27. _____	28. _____	29. _____	30. _____	31. _____	32. _____
33. <u>0 4</u>	34. _____	35. _____	36. _____	37. _____	38. _____	39. _____
40. <u>0 5</u>	41. _____	42. _____	43. _____	44. _____	45. _____	46. _____

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENT SUPPLEMENT

## CODES FOR CLASS OF VEHICLE

- (00) Not a motor vehicle
- (01) Subcompact/mini (wheelbase < 254 cm)
- (02) Compact (wheelbase ≥ 254 but < 265 cm)
- (03) Intermediate (wheelbase ≥ 265 but < 278 cm)
- (04) Full size (wheelbase ≥ 278 but < 291 cm)
- (05) Largest (wheelbase ≥ 291 cm)
- (09) Unknown passenger car size
- (11) Compact utility vehicle
- (12) Large utility vehicle (≤ 4,500 kgs GVWR)
- (13) Passenger van (≤ 4,500 kgs GVWR)
- (14) Other van (≤ 4,500 kgs GVWR)
- (15) Pickup truck (≤ 4,500 kgs GVWR)
- (18) Other truck (≤ 4,500 kgs GVWR)
- (19) Unknown light truck type
- (20) School bus
- (21) Other bus
- (22) Truck (> 4,500 kgs GVWR)
- (23) Tractor without trailer
- (24) Tractor-trailer(s)
- (25) Motored cycle
- (28) Other vehicle
- (99) Unknown

## CODES FOR GENERAL AREA OF DAMAGE (GAD)

### CDS APPLICABLE AND OTHER VEHICLES

- (O) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back
- (T) Top
- (U) Undercarriage
- (9) Unknown

### TDC APPLICABLE VEHICLES

- (O) Not a motor vehicle
- (N) Noncollision
- (F) Front
- (R) Right side
- (L) Left side
- (B) Back of unit with cargo area (rear of trailer or straight truck)
- (D) Back (rear of tractor)
- (C) Rear of cab
- (V) Front of cargo area
- (T) Top
- (U) Undercarriage
- (9) Unknown

## CODES FOR VEHICLE NUMBER OR OBJECT CONTACTED

### (01-30) — Vehicle Number

#### Noncollision

- (31) Overturn — rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify): \_\_\_\_\_

(35) Noncollision injury

(38) Other noncollision (specify): \_\_\_\_\_

(39) Noncollision — details unknown

#### Collision With Fixed Object

- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

(45) Breakaway pole or post (any diameter)

#### Nonbreakaway Pole or Post

- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)

(54) Concrete traffic barrier

(55) Impact attenuator

(56) Other traffic barrier (includes guardrail) (specify): \_\_\_\_\_

(57) Fence

(58) Wall

(59) Building

(60) Ditch or culvert

(61) Ground

(62) Fire hydrant

(63) Curb

(64) Bridge

(68) Other fixed object (specify): \_\_\_\_\_

(69) Unknown fixed object

#### Collision with Nonfixed Object

(71) Motor vehicle not in-transport

(72) Pedestrian

(73) Cyclist or cycle

(74) Other nonmotorist or conveyance

(75) Vehicle occupant

(76) Animal

(77) Train

(78) Trailer, disconnected in transport

(88) Other nonfixed object (specify): \_\_\_\_\_

(89) Unknown nonfixed object

(98) Other event (specify): \_\_\_\_\_

(99) Unknown event or object



## GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

DSI-93-AB-018

3. Vehicle Number

01

## VEHICLE IDENTIFICATION

4. Vehicle Model Year

91Code the last two digits of the model year  
(99) Unknown

5. Vehicle Make (specify):

49TOYOTAApplicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown

6. Vehicle Model (specify):

033CELICA (ST)Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(999) Unknown

7. Body Type

02Note: Applicable codes may be found on  
the back of this page.

8. Vehicle Identification Number

JT2AT86FSM0XXXXXXLeft justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nine's

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition

(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown1

10. Police Reported Travel Speed

064Code to the nearest kph (NOTE: 000 means  
less than 0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown40 mph X 1.6093 = 064 kph

11. Police Reported Alcohol Presence

(0) No alcohol present  
(1) Yes (alcohol present)  
(7) Not reported  
(8) No driver present  
(9) Unknown0Note: See variables 37 through 55  
(Page 4) for information on Other Drugs

12. Alcohol Test Result For Driver

Code actual value (decimal implied  
before first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown96Source: P.A.R.

## ACCIDENT RELATED

13. Speed Limit

(000) No statutory limit  
Code posted or statutory speed limit  
in kph  
(999) Unknown05635 mph X 1.6093 = 056 kph

14. Attempted Avoidance Maneuver

(00) No impact  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):03

(99) Unknown

15. Accident Type

Applicable codes may be found on the  
back of page two of this field form  
(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):20

(99) Unknown

\*\*\*\* SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): \_\_\_\_\_

- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 4,500$ kgs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ( $\leq 4,500$  kgs GVWR)
- (23) Van based motorhome ( $\leq 4,500$  kgs GVWR)
- (24) Van based school bus ( $\leq 4,500$  kgs GVWR)
- (25) Van based other bus ( $\leq 4,500$  kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): \_\_\_\_\_

- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500.)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_

- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 4,500$ kgs GVWR)

- (60) Step van ( $> 4,500$  kgs GVWR)
- (61) Single unit straight truck ( $4,500$  kgs  $<$  GVWR  $\leq 8,850$  kgs)
- (62) Single unit straight truck ( $8,850$  kgs  $<$  GVWR  $\leq 12,000$  kgs)
- (63) Single unit straight truck ( $> 12,000$  kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): \_\_\_\_\_
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

## OCCUPANT RELATED

## 16. Driver Presence in Vehicle

- (0) Driver not present  
(1) Driver present  
(9) Unknown

117. Number of Occupants This Vehicle  
(00-96) Code actual number of occupants for this vehicle  
(97) 97 or more  
(99) Unknown01

## 18. Number of Occupant Forms Submitted

01

## VEHICLE WEIGHT ITEMS

## 19. Vehicle Curb Weight

Code weight to nearest  
10 kilograms.

- (045) Less than 450 kilograms  
(610) 6,100 kilograms or more  
(999) Unknown

1,210

2,669 lbs X .4536 = 1,213 kgs

Source: [REDACTED]

## 20. Vehicle Cargo Weight

Code weight to nearest  
10 kilograms.

- (000) Less than 5 kilograms  
(450) 4,500 kilograms or more  
(999) Unknown

0,000

\_\_\_\_ lbs X .4536 = \_\_\_\_ kgs

## RECONSTRUCTION DATA

## 21. Towed Trailing Unit

- (0) No towed unit  
(1) Yes—towed trailing unit  
(9) Unknown

0

## 22. Documentation of Trajectory Data for This Vehicle

- (0) No  
(1) Yes

1

## 23. Post Collision Condition of Tree or Pole (For Highest Delta V)

- (0) Not collision (for highest delta V) with tree or pole  
(1) Not damaged  
(2) Cracked/sheared  
(3) Tilted <45 degrees  
(4) Tilted ≥45 degrees  
(5) Uprooted tree  
(6) Separated pole from base  
(7) Pole replaced  
(8) Other (specify):  
(9) Unknown

0

## 24. Rollover

- (0) No rollover (no overturning)

0

*Rollover (primarily about the longitudinal axis)*

- (1) Rollover, 1 quarter turn only  
(2) Rollover, 2 quarter turns  
(3) Rollover, 3 quarter turns  
(4) Rollover, 4 or more quarter turns (specify):  
\_\_\_\_\_

- (5) Rollover--end-over-end (i.e., primarily about the lateral axis)

- (9) Rollover (overturn), details unknown

## OVERRIDE/UNDERRIDE (THIS VEHICLE)

## 25. Front Override/Underride (this Vehicle)

4

## 26. Rear Override/Underride (this Vehicle)

0

- (0) No override/underride, or not an end-to-end impact

*Override (see specific CDC)*

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify):  
\_\_\_\_\_

*Underride (see specific CDC)*

- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify):  
\_\_\_\_\_

- (7) Medium/heavy truck or bus override

- (9) Unknown

## HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value  
(997) Noncollision  
(998) Impact with object  
(999) Unknown










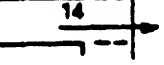
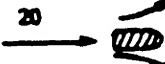
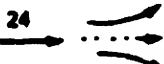
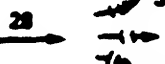



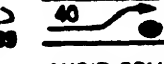


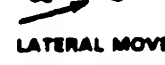














## 27. Heading Angle For This Vehicle

005

## 28. Heading Angle For Other Vehicle

000



Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 26, 28, 27	 24 DECEL. 29, 30, 31	25 SPECIFICS OTHER	26 SPECIFICS UNKNOWN
	E Forward Impact	 34 CONTROL/ TRACTION LOSS	 35 CONTROL/ TRACTION LOSS	 36 AVOID COLLISION WITH VEH.	 37 AVOID COLLISION WITH OBJECT	(EACH - 42) SPECIFICS OTHER (EACH - 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	 44 45 46 47	 48 49 50 51	(EACH - 48) SPECIFICS OTHER	(EACH - 49) SPECIFICS UNKNOWN	
III Same Trafficway Opposite Direction	G Head-On	 50 LATERAL MOVE	(EACH - 52) SPECIFICS OTHER	(EACH - 53) SPECIFICS UNKNOWN		
	H Forward Impact	 54 CONTROL/ TRACTION LOSS	 55 CONTROL/ TRACTION LOSS	 56 AVOID COLLISION WITH VEH.	 57 AVOID COLLISION WITH OBJECT	(EACH - 62) SPECIFICS OTHER (EACH - 63) SPECIFICS UNKNOWN
	I Sideswipe Angle	 64 LATERAL MOVE	(EACH - 66) SPECIFICS OTHER	(EACH - 67) SPECIFICS UNKNOWN		
IV Change Trafficway Vehicle Turning	J Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72	(EACH - 74) SPECIFICS OTHER	(EACH - 75) SPECIFICS UNKNOWN
	K Turn Into Path	 77 TURN INTO SAME DIRECTION	 79 TURN INTO OPPOSITE DIRECTIONS	 81	(EACH - 84) SPECIFICS OTHER	(EACH - 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87	 89	(EACH - 90) SPECIFICS OTHER	(EACH - 91) SPECIFICS UNKNOWN	
VI Miscellaneous	M Backing Etc.	 92 BACKING VEH.	93 OTHER VEH. OR OBJECT	98 Other Accident Type 99 Unknown Accident Type 00 No Impact		

29. Basis for Total Delta V (highest) 1*Delta V Calculated*

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

*Delta V Not Calculated*

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

30. Total Delta V

Secondary Highest

0 2 020.4 Nearest kph

(NOTE: 000 means less than  
0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown

31. Longitudinal Component of  
Delta V+  
0 0 2 0- 20.3 Nearest kph

(NOTE: \_\_000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(\_\_999) Unknown

Secondary

Highest

32. Lateral Component of Delta V

+  
0 0 0 2- 1.8 Nearest kph

(NOTE: \_\_000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(\_\_999) Unknown

33. Energy Absorption

0 1 2 5 0 012 500.7 Nearest 100 joules

(NOTE: 0000 means less than 50 joules)  
(9997) 999,650 joules or more  
(9999) Unknown

34. Confidence In Reconstruction Program  
Results (For Highest Delta V)

- (0) No reconstruction
- (1) Collision fits model — results appear reasonable
- (2) Collision fits model — results appear high
- (3) Collision fits model — results appear low
- (4) Borderline reconstruction — results appear reasonable

35. Type of Vehicle Inspection

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

36. Is this an AOPS Vehicle?

- (0) No
- (1) Yes - researcher determined
- (2) VIN determined air bag system
- (3) VIN determined automatic (passive) belts
- (4) VIN determined air bag and automatic (passive) belts

IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [X] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [X] NO

37. Police Reported Other Drug Presence   X  

- (0) No other drugs present  
 (1) Yes (other drug present)  
 (7) Not reported  
 (8) No driver present  
 (9) Unknown

38. Police Reported Drug Evaluation Classification (DEC) Test For Driver   X  

- (0) No DEC process available or given  
 (1) DEC process given, results known  
 (2) DEC process given, results unknown  
 (3) DEC process available, unknown if given  
 (8) No driver present

39. Other Drug Specimen Test Type For Driver   X  

- (0) No specimen test given  
 (1) Blood test  
 (2) Urine test  
 (3) Other specimen tests (specify):  
 \_\_\_\_\_  
 (7) Unspecified specimen test  
 (8) No driver present  
 (9) Unknown if specimen test given

### DRUG EVALUATION CLASSIFICATION

#### OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC Test Results	Specimen Test Results
Narcotic Drug	40. <u>  X  </u>	41. <u>  X  </u>
Depressant Drug	42. <u>  X  </u>	43. <u>  X  </u>
Stimulant Drug	44. <u>  X  </u>	45. <u>  X  </u>
Hallucinogen Drug	46. <u>  X  </u>	47. <u>  X  </u>
Cannabinoid Drug	48. <u>  X  </u>	49. <u>  X  </u>
Phencyclidine (PCP)	50. <u>  X  </u>	51. <u>  X  </u>
Inhalant Drug	52. <u>  X  </u>	53. <u>  X  </u>
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. <u>  X  </u>	55. <u>  X  </u>

## Codes For DEC Test Results

- (0) No DEC test given  
 (1) Passed DEC test  
 (2) Failed DEC test  
 (3) DEC test given—results unknown  
 (8) No driver present  
 (9) Unknown if DEC test given

## Codes for Specimen Test Results

- (0) No specimen test given  
 (1) Drug not found in specimen  
 (2) Drug found in specimen  
 (7) Specimen test given, results unknown or not obtained  
 (8) No driver present  
 (9) Unknown if specimen test given

**OTHER DATA**

## 56. Driver's Zip Code

- (00000) Driver not present  
 (00001) Driver not a resident of U.S. or territories  
 Code actual 5-digit zip code  
 (99999) Unknown

## 57. Driver's Race/Ethnic Origin

- (0) Driver not present  
 (1) White (non-Hispanic)  
 (2) Black (non-Hispanic)  
 (3) White (Hispanic)  
 (4) Black (Hispanic)  
 (5) American Indian, Eskimo or Aleut  
 (6) Asian or Pacific Islander  
 (8) Other (specify):  
 (9) Unknown

## 58. Vehicle Special Use (This Trip)

- (0) No special use  
 (1) Taxi  
 (2) Vehicle used as school bus  
 (3) Vehicle used as other bus  
 (4) Military  
 (5) Police  
 (6) Ambulance  
 (7) Fire truck or car  
 (8) Other (specify):  
 (9) Unknown

**ROLLOVER DATA**

If GV07 (Body Type)  $\neq$  1-49, leave GV59-GV63 blank.  
 If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.  
 If GV24 = 9, then GV59-GV63 must equal 9.

## 59. Rollover Initiation Type

- (0) No rollover  
 (1) Trip-over  
 (2) Flip-over  
 (3) Turn-over  
 (4) Climb-over  
 (5) Fall-over  
 (6) Bounce-over  
 (7) Collision with another vehicle  
 (8) Other rollover initiation type specify:  
 (9) Unknown rollover initiation type

## 60. Location of Rollover Initiation

- (0) No rollover  
 (1) On roadway  
 (2) On shoulder—paved  
 (3) On shoulder—unpaved  
 (4) On roadside or divided trafficway median  
 (9) Unknown

## 61. Rollover Initiation Object Contacted

## 62. Location on Vehicle Where Initial Principal Tripping Force Is Applied

- (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify):  
 (8) Non-contact rollover forces (specify):  
 (9) Unknown

## 63. Direction of Initial Roll

- (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (5) End-over-end (i.e., primarily about the lateral axis)  
 (9) Unknown roll direction

**PRECRASH DATA**

## 64. Pre-Event Movement (Prior to Recognition of Critical Event)

- (01) Going straight  
 (02) Slowing or stopping in traffic lane  
 (03) Starting in traffic lane  
 (04) Stopped in traffic lane  
 (05) Passing or overtaking another vehicle  
 (06) Disabled or parked in travel lane  
 (07) Leaving a parking position  
 (08) Entering a parking position  
 (09) Turning right  
 (10) Turning left  
 (11) Making a U-turn  
 (12) Backing up (other than for parking position)  
 (13) Negotiating a curve  
 (14) Changing lanes  
 (15) Merging  
 (16) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify):  
 (98) No driver present  
 (99) Unknown

## CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

### Noncollision

- (31) Turn-over — fall-over
- (33) Jackknife

### Collision With Fixed Object

- (41) Tree ( $\leq 10$  cm in diameter)
- (42) Tree ( $> 10$  cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

### Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 10$  cm in diameter)
- (51) Pole or post ( $> 10$  cm but  $\leq 30$  cm in diameter)
- (52) Pole or post ( $> 30$  cm in diameter)
- (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): \_\_\_\_\_

- (69) Unknown fixed object

### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (88) Other nonfixed object (specify): \_\_\_\_\_

- (89) Unknown nonfixed object

- (98) Other event (specify): \_\_\_\_\_

- (99) Unknown event or object

## PRECRASH DATA (Continued)

65. Critical Precrash Event 5 0*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off) (specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): \_\_\_\_\_
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Stopped
- (51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left lane line
- (61) From adjacent lane (same direction)—over right lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details unknown

*Pedestrian or Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian - unknown location
- (83) Pedalcyclist or other nonmotorist in roadway (specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching roadway (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location

(98) Other critical precrash event (specify): \_\_\_\_\_

(99) Unknown \_\_\_\_\_

For Corrective Actions Attempted see variable GV14 (Attempted Avoidance Manuever)

66. Precrash Stability After Avoidance Maneuver 1

- (0) No avoidance maneuver
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30 degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_
- (8) No driver present
- (9) Precrash stability unknown

67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action) 1

- (0) No avoidance maneuver
- (1) Vehicle stayed in travel lane where avoidance maneuver was initiated
- (2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated
- (3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated
- (4) Vehicle departed roadway
- (5) Avoidance maneuver initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*  
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.



## EXTERIOR VEHICLE FORM

1. Primary Sampling Unit Number _____	3. Vehicle Number <u>Ø 1</u>
2. Case Number - Stratum <u>DSF-93-AB-Ø18</u>	

### VEHICLE IDENTIFICATION

VIN J T 2 A T 8 6 F 5 M Ø x x x x x x Model Year 9 1  
Vehicle Make (specify): TOYOTA Vehicle Model (specify): Celica ST 2000R

### LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
<u>Ø 1</u>	<u>ABOVE Front Bumper, R/F B CORNER</u>	<u>Front Bumper</u>

### CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure and document on the vehicle diagram the location of maximum crush.

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of Impact C-Measurements	Direct Damage		Field L	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	max C <sub>5</sub>	C <sub>6</sub>	±D
		Width (CDC)	Max Crush								
<u>Ø 1</u>	<u>ABOVE Bumper</u>	<u>144.Ø</u>	<u>41.8</u>	<u>126</u>	<u>29.8</u>	<u>19.2</u>	<u>42.5</u>	<u>39.Ø</u>	<u>41.8</u>	<u>41.4</u>	<u>Ø</u>
	<u>- FREE SPACE</u>		<u>4.Ø</u>		<u>13.Ø</u>	<u>4.Ø</u>	<u>Ø</u>	<u>Ø</u>	<u>4.Ø</u>	<u>13.Ø</u>	
	<u>- ADD FREE SPACE</u>		<u>14.Ø</u>		<u>16.8</u>	<u>14.Ø</u>	<u>20.Ø</u>	<u>20.Ø</u>	<u>14.Ø</u>	<u>16.8</u>	
	<u>RESULTANT</u>		<u>33.8</u>		<u>Ø</u>	<u>1.2</u>	<u>22.5</u>	<u>19.Ø</u>	<u>33.8</u>	<u>11.3</u>	
			<u>Ø C-5</u>								
<u>Ø 1</u>	<u>Bumper</u>	<u>144.Ø</u>	<u>N/A</u>	<u>126</u>	<u>13.Ø</u>	<u>4.Ø</u>	<u>20.Ø</u>	<u>20.Ø</u>	<u>4.Ø</u>	<u>13.Ø</u>	
	<u>- FREE SPACE</u>				<u>13.Ø</u>	<u>4.Ø</u>	<u>20.Ø</u>	<u>20.Ø</u>	<u>4.Ø</u>	<u>13.Ø</u>	
					<u>Ø</u>	<u>Ø</u>	<u>Ø</u>	<u>Ø</u>	<u>Ø</u>	<u>Ø</u>	
	<u>AVERAGE</u>				<u>Ø</u>	<u>Ø</u>	<u>11.3</u>	<u>9.5</u>	<u>16.9</u>	<u>5.7</u>	<u>Ø</u>
				<u>(US)</u>							
					<u>Ø</u>	<u>Ø</u>	<u>4.3</u>	<u>3.9</u>	<u>6.7</u>	<u>2.4</u>	<u>Ø</u>

# ORIGINAL SPECIFICATIONS WORK SHEET

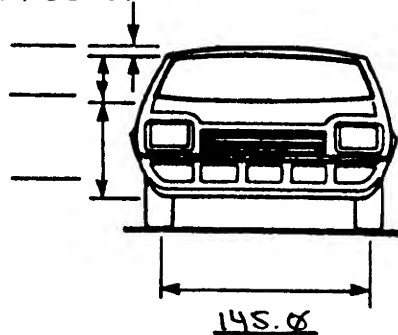
Wheelbase	<del>Ø</del> <u>99</u> . <u>6</u>	inches	x 2.54	=	<u>2</u> <u>5</u> <u>3</u>	cm
Overall Length	<u>1</u> <u>7</u> <u>6</u> . <del>Ø</del>	inches	x 2.54	=	<u>4</u> <u>4</u> <u>7</u>	cm
Maximum Width	<del>Ø</del> <u>67</u> . <u>3</u>	inches	x 2.54	=	<u>1</u> <u>7</u> <u>1</u>	cm
Curb Weight	<del>Ø</del> <u>2,669</u>	pounds	x .4536	=	<u>1,213</u>	kg
Average Track	<del>Ø</del> <u>57</u> . <u>2</u>	inches	x 2.54	=	<u>1</u> <u>4</u> <u>5</u>	cm
Front Overhang	<del>Ø</del> <u>39</u> . <u>8</u>	inches	x 2.54	=	<u>1</u> <del>Ø</del> <u>1</u>	cm
Rear Overhang	<del>Ø</del> <u>34</u> . <u>3</u>	inches	x 2.54	=	<del>Ø</del> <u>8</u> <u>7</u>	cm
Undeformed End Width	<del>Ø</del> <u>56</u> . <u>7</u>	inches	x 2.54	=	<u>1</u> <u>4</u> <u>4</u>	cm
Engine Size: cyl./displ.	<u>1</u> <u>6</u> <del>Ø</del> <del>Ø</del>	cc	x .001	=	<u>1.6</u>	L
	<del>Ø</del> <u>98</u>	CID	x .0164	=	<u>1.6</u>	L



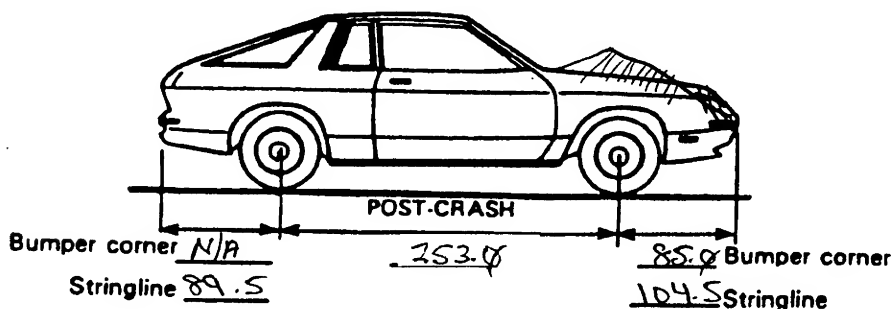
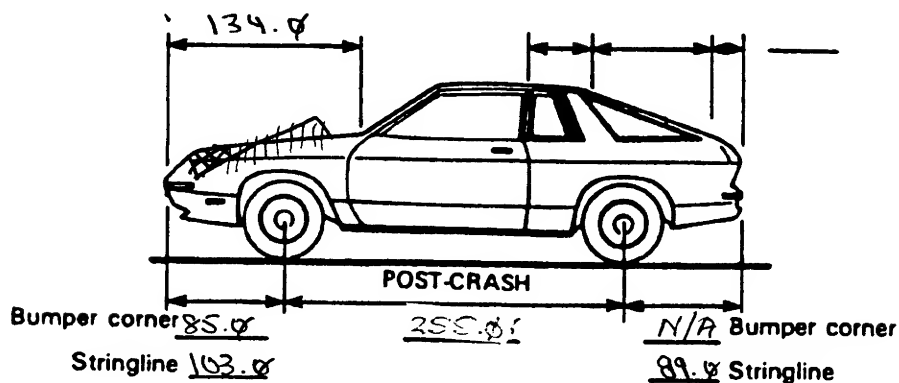
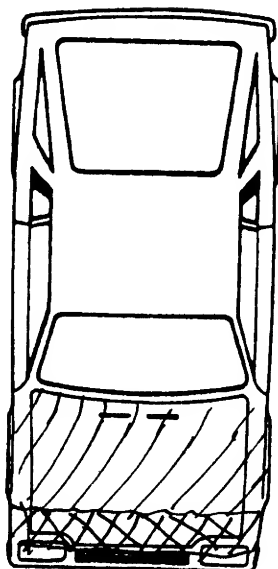
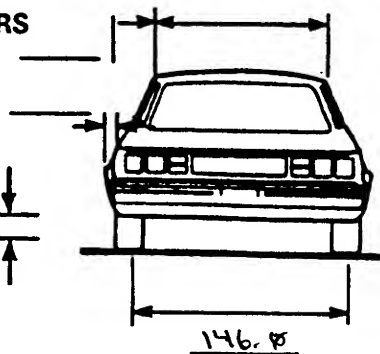
## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted RF <u>2</u> LF <u>2</u> RR <u>2</u> LR <u>2</u> (1) Yes (2) No (8) NA (9) Unk.		<b>b. Tire deflated</b> RF <u>1</u> LF <u>2</u> RR <u>2</u> LR <u>2</u>		<b>ORIGINAL SPECIFICATIONS</b> Wheelbase <u>253.0</u> cm Overall Length <u>447.0</u> cm Maximum Width <u>171.0</u> cm Curb Weight <u>1213</u> kg Average Track <u>145.0</u> cm Front Overhang <u>101.0</u> cm Rear Overhang <u>87.0</u> cm Undeformed End Width <u>144.0</u> cm Engine Size: cyl./displ. <u>24/1.6</u> L		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ± 5 degrees	
<b>TYPE OF TRANSMISSION</b> <input type="checkbox"/> Manual <input checked="" type="checkbox"/> Automatic				<b>DRIVE WHEELS</b> <input type="checkbox"/> FWD <input checked="" type="checkbox"/> RWD <input type="checkbox"/> 4WD			
				Approximate Cargo Weight <u>0</u> kg			

STANDS AOL



## MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.



## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <del>Ø</del> 1	5. <del>Ø</del> 2	6. 1 2	7. F	8. D	9. E	10. W	11. <del>Ø</del> 2

## Second Highest Delta "V"

12. _____	13. _____	14. _____	15. _____	16. _____	17. _____	18. _____	19. _____
-----------	-----------	-----------	-----------	-----------	-----------	-----------	-----------

## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

(US)

## HIGHEST DELTA "V"

20. _____ L	21. _____ C <sub>1</sub>	_____ C <sub>2</sub>	_____ C <sub>3</sub>	_____ C <sub>4</sub>	_____ C <sub>5</sub>	_____ C <sub>6</sub>	22. _____ ±D
1 4 4 (56.7)	<del>Ø</del> <del>Ø</del> <del>Ø</del> (0)	<del>Ø</del> <del>Ø</del> <del>Ø</del> (Ø)	<del>Ø</del> 1 1 (4.3)	<del>Ø</del> 1 <del>Ø</del> (3.9)	<del>Ø</del> 1 7 (6.7)	<del>Ø</del> <del>Ø</del> 6 (2.4)	<sup>+</sup> - <del>Ø</del> <del>Ø</del> <del>Ø</del> (Ø)

## Second Highest Delta "V"

23. _____ L	24. _____ C <sub>1</sub>	_____ C <sub>2</sub>	_____ C <sub>3</sub>	_____ C <sub>4</sub>	_____ C <sub>5</sub>	_____ C <sub>6</sub>	25. _____ ±D
_____	_____	_____	_____	_____	_____	_____	<sup>+</sup> - _____

26. Are CDCs Documented but Not Coded on The Automated File?  
(0) No  
(1) Yes

~~Ø~~

27. Researcher's Assessment of Vehicle Disposition  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

1

28. Original Wheelbase 253  
Code to the nearest centimeter  
(999) Unknown

Ø 99.6 inches X 2.54 = 253 centimeters

29. Is This A Multi-Stage Manufactured Vehicle  
And/Or A Certified Altered Vehicle? Ø

(0) No post manufacturer modifications

(1) Yes - post manufacturer modifications  
(specify): \_\_\_\_\_

\_\_\_\_\_  
(Include photograph of CERTIFICATION  
PLACARD in case report)

(9) Unknown if vehicle is modified

30. Fire Occurrence Ø

(0) No fire

Yes, fire occurred

(1) Minor

(2) Major

(9) Unknown

31. Origin of Fire Ø

(0) No fire

(1) Vehicle exterior (front, side, back, top)

(2) Exhaust system

(3) Fuel tank (and other fuel retention  
system parts)

(4) Engine compartment

(5) Cargo/trunk compartment

(6) Instrument panel

(7) Passenger compartment area

(8) Other location (specify): \_\_\_\_\_

(9) Unknown

32. Type of Fuel Tank 1

(0) No fuel tank (electrical vehicle)

(1) Metallic

(2) Non-metallic

(9) Unknown

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS \*\*\*  
(I.E., GV09=0 OR 9 AND GV36=0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

**INTERIOR VEHICLE FORM**

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

1. Primary Sampling Unit Number

2. Case Number - Stratum

DSE-93-AB-018

3. Vehicle Number

Ø 1**INTEGRITY**

4. Passenger Compartment Integrity

Ø Ø

(00) No integrity loss

Yes, Integrity Was Lost Through

(01) Windshield

(02) Door (side)

(03) Door/hatch (back door)

(04) Roof

(05) Roof glass

(06) Side window

(07) Rear window (backlight)

(08) Roof and roof glass

(09) Windshield and door (side)

(10) Windshield and roof

(11) Side and rear window (side window and backlight)

(12) Windshield and side window

(13) Door and side window

(98) Other combination of above (specify):

(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR Ø 8. RR Ø 9. TG/H 1

(0) No door/gate/hatch

(1) Door/gate/hatch remained closed and operational

(2) Door/gate/hatch came open during collision

(3) Door/gate/hatch jammed shut

(8) Other (specify):

(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code Ø

10. LF Ø 11. RF Ø 12. LR Ø 13. RR Ø 14. TG/H Ø

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

(1) Door operational (no damage)

(2) Latch/striker failure due to damage

(3) Hinge failure due to damage

(4) Door structure failure due to damage

(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage

(6) Latch/striker and hinge failure due to damage

(8) Other failure (specify):

(9) Unknown

**GLAZING**

Glazing Damage from Impact Forces

15. WS Ø 16. LF Ø 17. RF Ø 18. LR Ø 19. RR Ø20. BL Ø 21. Roof Ø 22. Other Ø

(0) No glazing damage from impact forces

(2) Glazing in place and cracked from impact forces

(3) Glazing in place and holed from impact forces

(4) Glazing out-of-place (cracked or not) and not holed from impact forces

(5) Glazing out-of-place and holed from impact forces

(6) Glazing disintegrated from impact forces

(7) Glazing removed prior to accident

(8) No glazing

(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS Ø 24. LF Ø 25. RF Ø 26. LR Ø 27. RR Ø28. BL Ø 29. Roof Ø 30. Other Ø

(0) No occupant contact to glazing or no glazing

(1) Glazing contacted by occupant but no glazing damage

(2) Glazing in place and cracked by occupant contact

(3) Glazing in place and holed by occupant contact

(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact

(5) Glazing out-of-place by occupant contact and holed by occupant contact

(6) Glazing disintegrated by occupant contact

(9) Unknown if contacted by occupant

If No Glazing Damage *And* No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As Ø

Type of Window/Windshield Glazing

31. WS Ø 32. LF Ø 33. RF Ø 34. LR Ø 35. RR Ø36. BL Ø 37. Roof Ø 38. Other Ø

(0) No glazing contact and no damage, or no glazing

(1) AS-1 — Laminated

(2) AS-2 — Tempered

(3) AS-3 — Tempered-tinted

(4) AS-14 — Glass/Plastic

(8) Other (specify):

(9) Unknown

Window Precrash Glazing Status

39. WS Ø 40. LF Ø 41. RF Ø 42. LR Ø 43. RR Ø44. BL Ø 45. Roof Ø 46. Other Ø

(0) No glazing contact and no damage, or no glazing

(1) Fixed

(2) Closed

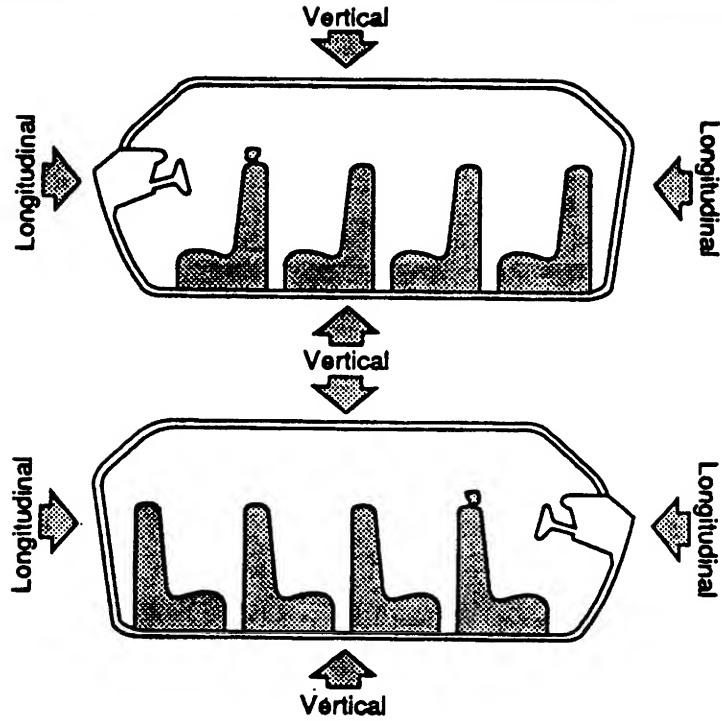
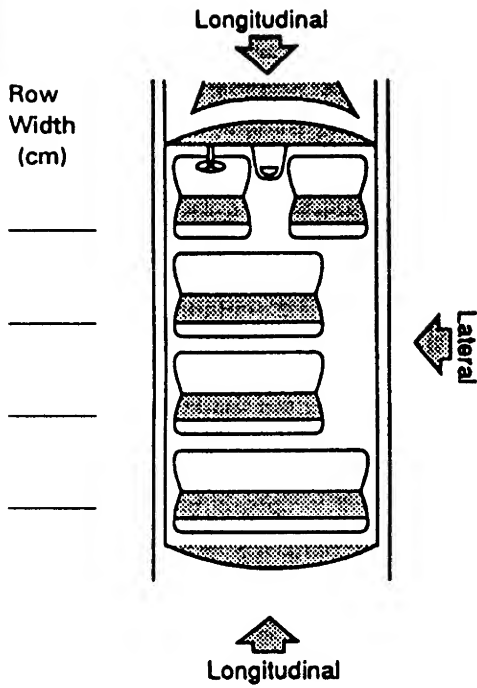
(3) Partially opened

(4) Fully opened

(9) Unknown

# INTRUSION WORKSHEET

Note: Sketch intruded areas



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			INTRUSION	DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	INTRUDED VALUE	=		
		-		=		
		-		=		
		-		=		
		-		=		
		-		=		
		-		=		
		-		=		
		-		=		
		-		=		
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		-		=		
		-		=		
		-		=		
		-		=		
		-		=		
		-		=		

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. _____	48. _____	49. _____	50. _____
2nd	51. _____	52. _____	53. _____	54. _____
3rd	55. _____	56. _____	57. _____	58. _____
4th	59. _____	60. _____	61. _____	62. _____
5th	63. _____	64. _____	65. _____	66. _____
6th	67. _____	68. _____	69. _____	70. _____
7th	71. _____	72. _____	73. _____	74. _____
8th	75. _____	76. _____	77. _____	78. _____
9th	79. _____	80. _____	81. _____	82. _____
10th	83. _____	84. _____	85. _____	86. _____

## INTRUDING COMPONENT

*Interior Components*

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify): \_\_\_\_\_

- (27) Side panel - forward of the A (A2)-pillar
- (28) Side panel - rear of the A (A2)-pillar

*Exterior Components*

- (30) Hood
- (31) Outside surface of this vehicle (specify): \_\_\_\_\_
- (32) Other exterior object in the environment (specify): \_\_\_\_\_
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): \_\_\_\_\_
- (99) Unknown

## LOCATION OF INTRUSION

## Front Seat

- (11) Left
- (12) Middle
- (13) Right

## Fourth Seat

- (41) Left
- (42) Middle
- (43) Right

## Second Seat

- (21) Left
- (22) Middle
- (23) Right

- (97) Catastrophic
- (98) Other enclosed area (specify) \_\_\_\_\_

(99) Unknown

## Third Seat

- (31) Left
- (32) Middle
- (33) Right

## MAGNITUDE OF INTRUSION

- (1)  $\geq 3$  centimeters but  $< 8$  centimeters
- (2)  $\geq 8$  centimeters but  $< 15$  centimeters
- (3)  $\geq 15$  centimeters but  $< 30$  centimeters
- (4)  $\geq 30$  centimeters but  $< 46$  centimeters
- (5)  $\geq 46$  centimeters but  $< 61$  centimeters
- (6)  $\geq 61$  centimeters
- (7) Catastrophic
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

## STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

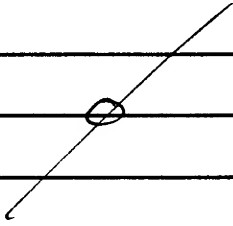
COMPARISON VALUE

—

DAMAGE VALUE

=

DEFORMATION



—

=

—

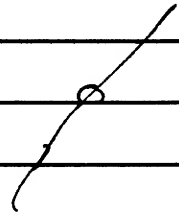
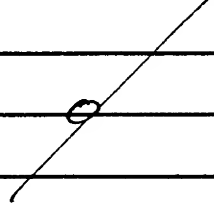
=

—

=

—

=





**STEERING COLUMN**87. Steering Column Type 2

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify): \_\_\_\_\_

(9) Unknown

88. Blank X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

89. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

90. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

91. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

92. Steering Rim/Spoke Deformation Ø Ø

- Code actual measured deformation to the nearest centimeter  
 (00) No steering rim deformation  
 (01-14) Actual measured value in centimeters  
 (15) 15 centimeters or more  
 (98) Observed deformation cannot be measured  
 (99) Unknown

93. Location of Steering Rim/Spoke Deformation Ø Ø

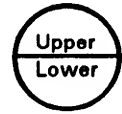
(00) No steering rim deformation

*Quarter Sections*

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D

*Half Sections*

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

**INSTRUMENT PANEL**94. Odometer Reading Ø 2 0,000

\_\_\_\_\_kilometers—Code to the nearest 1,000 kilometers

- (000) No odometer  
 (001) Less than 1,500 kilometers  
 (500) 499,500 kilometers or more  
 (999) Unknown

Ø 12,339 miles X 1.6093 = Ø 19,857 kilometers

Source: Inspection95. Instrument Panel Damage from Occupant Contact? Ø

- (0) No  
 (1) Yes  
 (9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? Ø

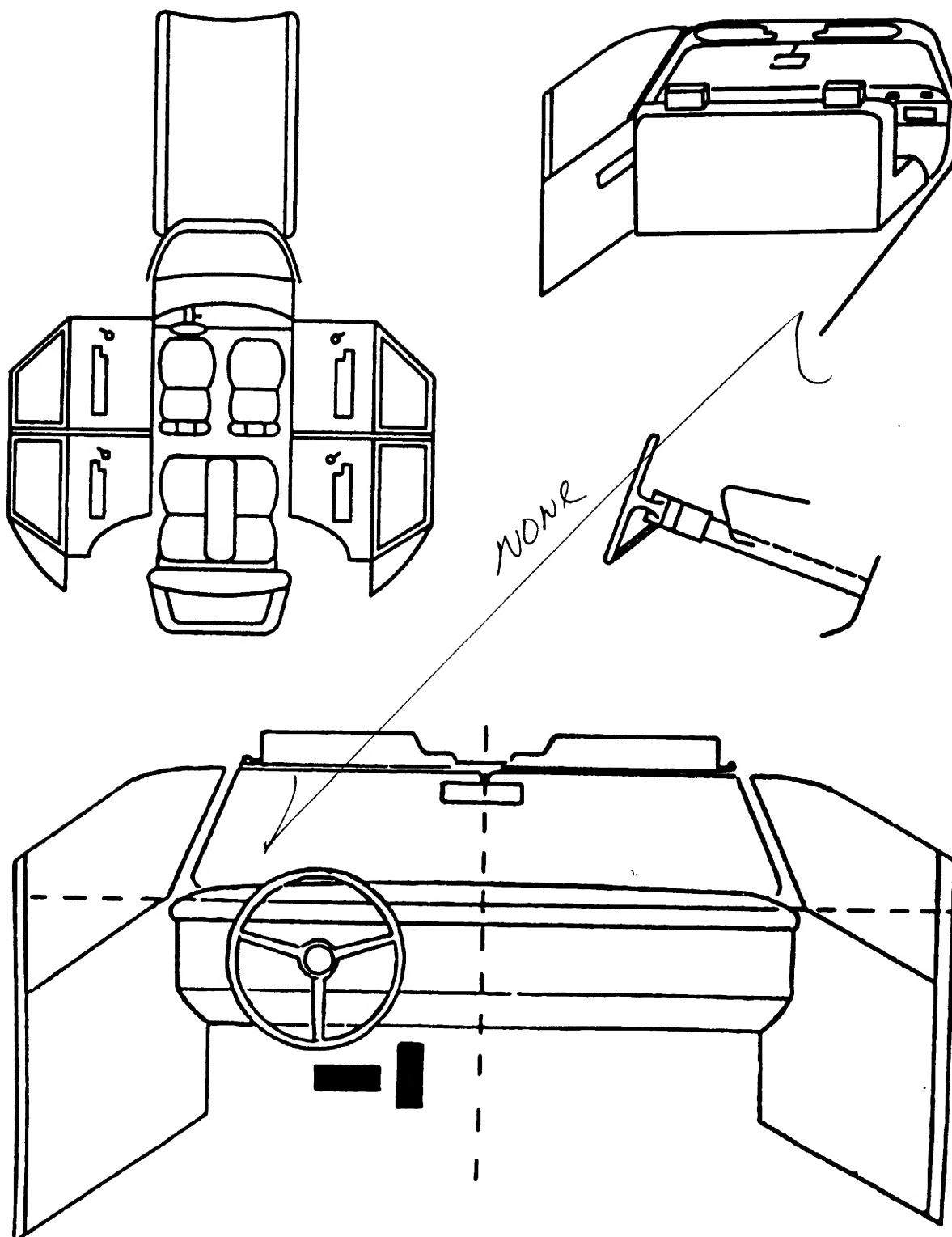
- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? Ø

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).  
 Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.  
 Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar

- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_

- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_
- (28) Left side window sill

## RIGHT SIDE

- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_
- (38) Right side window sill

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)

- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

### AIR BAGS

		Left	Right
F I R S T	Availability/Function	1	Ø
	Deployment	4	Ø
	Failure	9	Ø

#### Air Bag System Availability/Function

- (0) Not equipped/not available  
(1) Air bag

#### Non-functional

- (2) Air bag disconnected (specify):  
\_\_\_\_\_  
(3) Air bag not reinstalled  
(9) Unknown

#### Air Bag System Deployment

- (0) Not equipped/not available  
(1) Air bag deployed during accident (as a result of impact)  
(2) Air bag deployed inadvertently just prior to accident  
(3) Air bag deployed, accident sequence undetermined  
(4) Nondeployed  
(5) Unknown if deployed  
(6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)  
(9) Unknown

#### Did Air Bag System Fail?

- (0) Not equipped/not available  
(1) No  
(2) Yes (specify):  
\_\_\_\_\_  
(9) Unknown

### AUTOMATIC BELTS

		Left	Right
F I R S T	Availability/Function	Ø	Ø
	Use	Ø	Ø
	Type	Ø	Ø
	Proper Use	Ø	Ø
	Failure Modes	Ø	Ø

#### Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available  
(1) 2 point automatic belts  
(2) 3 point automatic belts  
(3) Automatic belts - type unknown

#### Non-functional

- (4) Automatic belts destroyed or rendered inoperative  
(9) Unknown

#### Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative  
(1) Automatic belt in use  
(2) Automatic belt not in use (manually disconnected, motorized track inoperative)  
(3) Automatic belt use unknown  
(9) Unknown

#### Automatic (Passive) Belt System Type

- (0) Not equipped/not available  
(1) Non-motorized system  
(2) Motorized system  
(9) Unknown

#### Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used  
(1) Automatic belt used properly  
(2) Automatic belt used properly with child safety seat

#### Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm  
(4) Automatic shoulder belt worn behind back  
(5) Automatic belt worn around more than one person  
(6) Lap portion of automatic belt worn on abdomen  
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify):  
\_\_\_\_\_  
(8) Other improper use of automatic belt system (specify):  
\_\_\_\_\_  
(9) Unknown

#### Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use  
(1) No automatic belt failure(s)  
(2) Torn webbing (stretched webbing not included)  
(3) Broken buckle or latchplate  
(4) Upper anchorage separated  
(5) Other anchorage separated (specify):  
\_\_\_\_\_  
(6) Broken retractor  
(7) Combination of above (specify):  
\_\_\_\_\_  
(8) Other automatic belt failure (specify):  
\_\_\_\_\_  
(9) Unknown

**MANUAL RESTRAINTS**

**NOTES:** Encode the applicable data for **each seat position** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	Ø	4
	Use	Ø4	ØØ	ØØ
	Failure Modes	1	Ø	Ø
SECOND	Availability	4	Ø	4
	Use	ØØ	ØØ	ØØ
	Failure Modes	Ø	Ø	Ø
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

**Manual (Active) Belt System Availability**

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

**Integral Belt Partially Destroyed**

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**Manual (Active) Belt System Use**

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify): \_\_\_\_\_
- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown

(08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify): \_\_\_\_\_
- (99) Unknown if belt used

**Manual (Active) Belt Failure Modes During Accident**

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_
- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other manual belt failure (specify): \_\_\_\_\_
- (9) Unknown

## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

### 1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

### 2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

### 3. Child Safety Seat Harness Usage

### 4. Child Safety Seat Shield Usage

- 5. Child Safety Seat Tether Usage
- Note: Options Below Are Used for Variables 3-5.
- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

### 6. Child Safety Seat Make/Model (Specify make/model and occupant number)

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## HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for each seat position in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3	Ø	3
	Seat Type	Ø2	ØØ	Ø2
	Seat Performance	1	Ø	1
	Seat Orientation	1	Ø	1
SECOND	Head Restraint Type/Damage	Ø	Ø	Ø
	Seat Type	Ø3	ØØ	Ø3
	Seat Performance	1	Ø	1
	Seat Orientation	1	1	1
THIRD	Head Restraint Type/Damage	/		
	Seat Type			
	Seat Performance			
	Seat Orientation			
OTHER	Head Restraint Type/Damage	/		
	Seat Type			
	Seat Performance			
	Seat Orientation			

## Head Restraint Type/Damage by Occupant at This Occupant Position

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other Specify): \_\_\_\_\_

(9) Unknown

## Seat Type (this Occupant Position)

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_

(10) Box mounted seat (i.e., van type)

(99) Unknown

## Seat Performance (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed specify: \_\_\_\_\_
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other (specify): \_\_\_\_\_

(9) Unknown

## Seat Orientation (this Occupant Position)

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): \_\_\_\_\_

(9) Unknown

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION**      No [☒]      Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

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Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

- (9) Unknown

**Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

- (9) Unknown

**Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

**ENTRAPMENT**      No [☒]      Yes [ ]

Describe entrapment mechanism: \_\_\_\_\_

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Component(s): \_\_\_\_\_

(Note in vehicle interior diagram)



National Highway Traffic Safety  
Administration

## OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT'S SEATING

1. Primary Sampling Unit Number

2. Case Number - Stratum

DSI-93-AB-018

3. Vehicle Number

01

4. Occupant Number

01

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age

29

Code actual age at time of accident.

(00) Less than one year old (specify by month):

(97) 97 years and older

(99) Unknown

6. Occupant's Sex

2

(1) Male

(2) Female

(9) Unknown

7. Occupant's Height

160

Code actual height to the nearest  
centimeter.

(999) Unknown

63 inches X 2.54 = 160 centimeters

8. Occupant's Weight

061

Code actual weight to the nearest  
kilogram.

(999) Unknown

135 pounds X .4536 = 61 kilograms

9. Occupant's Role

1

(1) Driver

(2) Passenger

(9) Unknown

10. Occupant's Seat Position

11

Front Seat

(11) Left side

(12) Middle

(13) Right side

(14) Other (specify):

(15) On or in the lap of another occupant

Second Seat

(21) Left side

(22) Middle

(23) Right side

(24) Other (specify):

(25) On or in the lap of another occupant

Third Seat

(31) Left side

(32) Middle

(33) Right side

(34) Other (specify):

(35) On or in the lap of another occupant

Fourth Seat

(41) Left side

(42) Middle

(43) Right side

(44) Other (specify):

(45) On or in the lap of another occupant

(97) In or on unenclosed area

(98) Other seat (specify):

(99) Unknown

11. Occupant's Posture

0

(0) Normal posture

Abnormal posture

(1) Kneeling or standing on seat

(2) Lying on or across seat

(3) Kneeling, standing or sitting in front of seat

(4) Sitting sideways or turned to talk with another  
occupant or to look out a rear window

(5) Sitting on a console

(6) Lying back in a reclined seat position

(7) Bracing with feet or hands on a surface in front  
of seat

(8) Other abnormal posture (specify):

(9) Unknown

## EJECTION/ENTRAPMENT

12. Ejection Ø

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

13. Ejection Area Ø

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

14. Ejection Medium Ø

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) Ø

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

16. Entrapment Ø

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

- (0) Not entrapped
- (1) Entrapped
- (9) Unknown

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown

18. Manual (Active) Belt System Use 4

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

(02) Shoulder belt

(03) Lap belt

(04) Lap and shoulder belt

(05) Belt used—type unknown

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat

(13) Lap belt used with child safety seat

(14) Lap and shoulder belt used with child safety seat

(15) Belt used with child safety seat—type unknown

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used

19. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

(3) Shoulder belt worn under arm

(4) Shoulder belt worn behind back or seat

(5) Belt worn around more than one person

(6) Lap belt worn on abdomen

(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown

20. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown

21. Air Bag System Availability/Function 1

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled

(9) Unknown

22. Air Bag System Deployment 4

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? 9

(0) Not equipped/not available

(1) No

(2) Yes (specify): \_\_\_\_\_

(9) Unknown

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use 8

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown

(9) Police indicated "unknown"

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant  
at This Occupant Position3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

26. Seat Type (this Occupant Position)

2

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_
- (10) Box mounted seat (i.e., van type)
- (99) Unknown

27. Seat Performance (this Occupant Position)

1

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other (specify): \_\_\_\_\_
- (9) Unknown

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model Ø Ø Ø  
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):  
 \_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat Ø  
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation Ø Ø  
 (00) No child safety seat  
  
*Designed for Rear Facing for This Age/Weight*  
 (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 \_\_\_\_\_  
 (09) Unknown orientation  
  
*Designed For Forward Facing for This Age/Weight*  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_  
 (19) Unknown orientation  
  
*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
 (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_  
 (29) Unknown orientation  
  
 (99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage Ø Ø

32. Child Safety Seat Shield Usage Ø Ø

33. Child Safety Seat Tether Usage Ø Ø

Note: Options below applicable to  
 Variables OA31-OA33.  
 (00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES**34. Injury Severity (Police Rating) ☒

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality ☒

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):

(9) Unknown

36. Type Of Medical Facility (for Initial Treatment) ☒

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

37. Hospital Stay ☒ ☒

- (00) Not Hospitalized
- Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

99. Case Occupant ☒

- (0) Not Case Occupant
- (1) This is the Case Occupant
- (2) This is the Case Occupant in another case

38. Working Days Lost ☒ ☒

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP - GO TO VARIABLE 44 ON PAGE 7****VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER**39. Time to Death ☒ ☒

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal - ruled disease
- (99) Unknown

40. 1st Medically Reported Cause of Death ☒ ☒41. 2nd Medically Reported Cause of Death ☒ ☒42. 3rd Medically Reported Cause of Death ☒ ☒

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

43. Number of Recorded Injuries for This Occupant ☒ ☒

- Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

**AUTOMATIC BELT SYSTEM**44. Automatic (Passive) Belt System Availability/ Function ☒

- (0) Not equipped/not available  
 (1) 2 point automatic belts  
 (2) 3 point automatic belts  
 (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative  
 (9) Unknown

45. Automatic (Passive) Belt System Use ☒

- (0) Not equipped/not available/destroyed or rendered inoperative  
 (1) Automatic belt in use  
 (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): \_\_\_\_\_

- (3) Automatic belt use unknown  
 (9) Unknown

46. Automatic (Passive) Belt System Type ☒

- (0) Not equipped/not available  
 (1) Non-motorized system  
 (2) Motorized system  
 (9) Unknown

47. Proper Use of Automatic (Passive) Belt System ☒

- (0) Not equipped/not available/not used  
 (1) Automatic belt used properly  
 (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm  
 (4) Automatic shoulder belt worn behind back  
 (5) Automatic belt worn around more than one person  
 (6) Lap portion of automatic belt worn on abdomen  
 (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

- (8) Other improper use of automatic belt system (specify): \_\_\_\_\_  
 (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident ☒

- (0) Not equipped/not available/not in use  
 (1) No automatic belt failure(s)  
 (2) Torn webbing (stretched webbing not included)  
 (3) Broken buckle or latchplate  
 (4) Upper anchorage separated  
 (5) Other anchorage separated (specify): \_\_\_\_\_

- (6) Broken retractor  
 (7) Combination of above (specify): \_\_\_\_\_  
 (8) Other automatic belt failure (specify): \_\_\_\_\_

- (9) Unknown

49. Seat Orientation (this Occupant Position) ☒

- (0) Occupant not seated or no seat  
 (1) Forward facing seat  
 (2) Rear facing seat  
 (3) Side facing seat (inward)  
 (4) Side facing seat (outward)  
 (8) Other (specify): \_\_\_\_\_

- (9) Unknown

## Check the Primary Source Used In Determining Belt Use.

- [ ] Not equipped/not available/destroyed or rendered inoperative  
 [X] Vehicle inspection  
 [ ] Official injury data  
 [ ] Driver/occupant interview  
 [ ] Other (specify): \_\_\_\_\_

- [ ] Unknown if belt used

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED  
 WITH INITIAL SUBMISSION?

NO ☒ YES [ ]

UPDATE CANDIDATE?

NO ☒ YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER**

### TRAUMA DATA

50. Glasgow Coma Scale (GCS) Score 0 0  
 (at Medical Facility)  
 (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the  
 initial GCS Score recorded at medical  
 facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured

51. Was the Occupant Given Blood? 1  
 (1) No - blood not given  
 (2) Yes - blood given  
 (specify units): \_\_\_\_\_  
 (9) Unknown if blood given

52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  0 0  
 (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the  $\text{HCO}_3$   
 (96) ABGs reported,  $\text{HCO}_3$  unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

### BELT USE DETERMINATION

53. Primary Source of Belt Use Determination 1  
 (0) Not equipped/not available/destroyed  
 or rendered inoperative  
 (1) Vehicle inspection  
 (2) Official injury data  
 (3) Driver/occupant interview  
 (8) Other (specify): \_\_\_\_\_  
 (9) Unknown if belt used





# GENERAL VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

DSF-93-AB-018

3. Vehicle Number

02

## VEHICLE IDENTIFICATION

4. Vehicle Model Year

Code the last two digits of the model year  
(99) Unknown

90

5. Vehicle Make (specify):

TOYOTA  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown

49

6. Vehicle Model (specify):

3R-5 4x4 Pickup Truck  
Applicable codes are found in your  
NASS Data Collection, Coding and  
Editing Manual.  
(99) Unknown

471

7. Body Type

Note: Applicable codes may be found on  
the back of this page.

30

8. Vehicle Identification Number

1T4YN1300LSXXXXXX

Left justify; Slash zeros and letter Z (0 and Z)  
No VIN—Code all zeros  
Unknown—Code all nine's

## OFFICIAL RECORDS

9. Police Reported Vehicle Disposition

(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

0

10. Police Reported Travel Speed

Code to the nearest kph (NOTE: 000 means  
less than 0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown

000

\_\_\_ mph X 1.6093 = \_\_\_ kph

11. Police Reported Alcohol Presence

(0) No alcohol present  
(1) Yes (alcohol present)  
(7) Not reported  
(8) No driver present  
(9) Unknown

0

Note: See variables 37 through 55  
(Page 4) for information on Other Drugs

12. Alcohol Test Result For Driver

Code actual value (decimal implied  
before first digit—0.xx)  
(95) Test refused  
(96) None given  
(97) AC test performed, results unknown  
(98) No driver present  
(99) Unknown

96

Source: P.A.R.

## ACCIDENT RELATED

13. Speed Limit

(000) No statutory limit  
Code posted or statutory speed limit  
in kph  
(999) Unknown

056

35 mph X 1.6093 = 056 kph

14. Attempted Avoidance Maneuver

(00) No impact  
(01) No avoidance actions  
(02) Braking (no lockup)  
(03) Braking (lockup)  
(04) Braking (lockup unknown)  
(05) Releasing brakes  
(06) Steering left  
(07) Steering right  
(08) Braking and steering left  
(09) Braking and steering right  
(10) Accelerating  
(11) Accelerating and steering left  
(12) Accelerating and steering right  
(97) No driver present  
(98) Other action (specify):

01

(99) Unknown

15. Accident Type

Applicable codes may be found on the  
back of page two of this field form  
(00) No impact  
Code the number of the diagram that  
best describes the accident circumstance  
(98) Other accident type (specify):

21

(99) Unknown

\*\*\*\* SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 \*\*\*\*

# CODES FOR BODY TYPE

## CDS APPLICABLE VEHICLES

### Automobiles

- (01) Convertible (excludes sun-roof, t-bar)
- (02) 2-door sedan, hardtop, coupe
- (03) 3-door/2-door hatchback
- (04) 4-door sedan, hardtop
- (05) 5-door/4-door hatchback
- (06) Station wagon (excluding van and truck based)
- (07) Hatchback, number of doors unknown
- (08) Other automobile type (specify): \_\_\_\_\_

- (09) Unknown automobile type

### Automobile Derivatives

- (10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
- (11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
- (12) Large limousine - more than four side doors or stretched chassis
- (13) Three-wheel automobile or automobile derivative

### Utility Vehicles ( $\leq 4,500$ kgs GVWR)

- (14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [78 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
- (15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
- (16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
- (19) Utility, unknown body type

### Van Based Light Trucks ( $\leq 4,500$ kgs GVWR)

- (20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
- (21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
- (22) Step van or walk-in van ( $\leq 4,500$  kgs GVWR)
- (23) Van based motorhome ( $\leq 4,500$  kgs GVWR)
- (24) Van based school bus ( $\leq 4,500$  kgs GVWR)
- (25) Van based other bus ( $\leq 4,500$  kgs GVWR)
- (28) Other van type (Hi-Cube Van, Kary) (specify): \_\_\_\_\_

- (29) Unknown van type

### Light Conventional Trucks (Pickup style cab, $\leq 4,500$ kgs GVWR)

- (30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10, T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
- (31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500.)

- (32) Pickup with slide-in camper
- (33) Convertible pickup
- (39) Unknown pickup style light conventional truck type

### Other Light Trucks ( $\leq 4,500$ kgs GVWR)

- (40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
- (41) Truck based panel
- (42) Light truck based motorhome (chassis mounted)
- (45) Other light conventional truck type
- (48) Unknown light truck type
- (49) Unknown light vehicle type (automobile, utility, van, or light truck)

## OTHER VEHICLES

### Buses (Excludes Van Based)

- (50) School bus (designed to carry students, not cross country or transit)
- (58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify): \_\_\_\_\_
- (59) Unknown bus type

### Medium/Heavy Trucks ( $> 4,500$ kgs GVWR)

- (60) Step van ( $> 4,500$  kgs GVWR)
- (61) Single unit straight truck ( $4,500$  kgs  $<$  GVWR  $\leq 8,850$  kgs)
- (62) Single unit straight truck ( $8,850$  kgs  $<$  GVWR  $\leq 12,000$  kgs)
- (63) Single unit straight truck ( $> 12,000$  kgs GVWR)
- (64) Single unit straight truck, GVWR unknown
- (65) Medium/heavy truck based motorhome
- (67) Truck-tractor with no cargo trailer
- (68) Truck-tractor pulling one trailer
- (69) Truck-tractor pulling two or more trailers
- (70) Truck-tractor (unknown if pulling trailer)
- (78) Unknown medium/heavy truck type
- (79) Unknown truck type (light/medium/heavy)

### Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

- (80) Motorcycle
- (81) Moped (motorized bicycle)
- (82) Three-wheel motorcycle or moped
- (88) Other motored cycle (minibike, motorscooter) (specify): \_\_\_\_\_
- (89) Unknown motored cycle type

### Other Vehicles

- (90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
- (91) Snowmobile
- (92) Farm equipment other than trucks
- (93) Construction equipment other than trucks
- (97) Other vehicle type
- (99) Unknown body type

## 24. Rollover

- (0) No rollover (no overturning)

- Rollover (primarily about the longitudinal axis)***

- (1) Rollover, 1 quarter turn only  
(2) Rollover, 2 quarter turns  
(3) Rollover, 3 quarter turns  
(4) Rollover, 4 or more quarter turns (specify):

- (5) Rollover--end-over-end (i.e., primarily about the lateral axis)

- (9) Rollover (overturn), details unknown

### **OVERRIDE/UNDERRIDE (THIS VEHICLE)**

- 25. Front Override/Underride (this Vehicle)**

$$\cancel{6} \underline{2,932} \text{ lbs} \times .4536 = \underline{1,330} \text{ kgs}$$

Source: [REDACTED]

- 26. Rear Override/Underride (this Vehicle)**

- (0) No override/underride, or not an end-to-end impact

**Override (see specific CDC)**

- (1) 1st CDC  
(2) 2nd CDC  
(3) Other not automated CDC (specify):

20. Vehicle Cargo Weight ~~1~~, ~~2~~ ~~3~~ 0  
 \_\_\_\_\_ Code weight to nearest  
 10 kilograms.  
 (000) Less than 5 kilograms  
 (450) 4,500 kilograms or more  
 (999) Unknown

lbs X .4536 = \_\_\_\_\_ kgs

***Underride (see specific CDC)***

- (4) 1st CDC  
(5) 2nd CDC  
(6) Other not automated CDC (specify):

- (7) Medium/heavy truck or bus override  
(9) Unknown

## HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

21. Towed Trailing Unit  
(0) No towed unit  
(1) Yes—towed trailing unit  
(9) Unknown




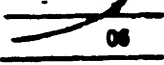
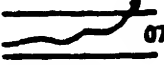

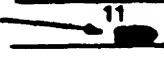

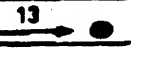
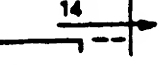
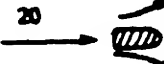

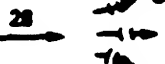
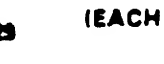




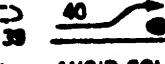
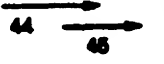


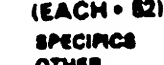
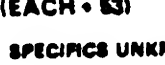





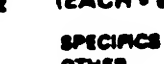


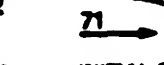


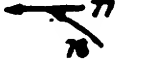



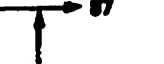

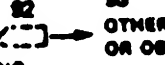

22. Documentation of Trajectory Data  
for This Vehicle  
(0) No  
(1) Yes

- Values: (000)-(359) Code actual value  
(997) Noncollision  
(998) Impact with object  
(999) Unknown

23. Post Collision Condition of Tree or Pole  
(For Highest Delta V)
- (0) Not collision (for highest delta V) with tree or pole
  - (1) Not damaged
  - (2) Cracked/sheared
  - (3) Tilted  $< 45$  degrees
  - (4) Tilted  $\geq 45$  degrees
  - (5) Uprooted tree
  - (6) Separated pole from base
  - (7) Pole replaced
  - (8) Other (specify):
  - (9) Unknown

27. Heading Angle For This Vehicle ☒ ☐ ☐

28. Heading Angle For Other Vehicle ~~0~~ ~~0~~ 5

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER 16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 STOPPED 21, 22, 23	 22 SLOWER 24, 25, 26, 27	 28 DECEL. 29, 30, 31	 30 (EACH • 32) SPECIFICS OTHER	 31 (EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 CONTROL/ TRACTION LOSS	 35 CONTROL/ TRACTION LOSS	 36 AVOID COLLISION WITH VEH.	 38 AVOID COLLISION WITH OBJECT	40 SPECIFICS OTHER 41 SPECIFICS UNKNOWN
	F Sideswipe Angle	 44 (EACH • 48) SPECIFICS OTHER	 46 (EACH • 49) SPECIFICS UNKNOWN			
III Same Trafficway Opposite Direction	G Head-On	 50 LATERAL MOVE	 51 (EACH • 52) SPECIFICS OTHER	 53 (EACH • 53) SPECIFICS UNKNOWN		
	H Forward Impact	 54 CONTROL/ TRACTION LOSS	 55 CONTROL/ TRACTION LOSS	 56 AVOID COLLISION WITH VEH.	 58 AVOID COLLISION WITH OBJECT	60 SPECIFICS OTHER 61 SPECIFICS UNKNOWN
	I Sideswipe Angle	 64 LATERAL MOVE	 65 (EACH • 66) SPECIFICS OTHER	 67 (EACH • 67) SPECIFICS UNKNOWN		
IV Change Trafficway Vehicle Turning	J Turn Across Path	 68 INITIAL OPPOSITE DIRECTIONS	 70 INITIAL SAME DIRECTIONS	 72 (EACH • 74)	 73 (EACH • 75)	SPECIFICS OTHER SPECIFICS UNKNOWN
	K Turn Into Path	 76 TURN INTO SAME DIRECTION	 78 TURN INTO OPPOSITE DIRECTIONS	 80 (EACH • 84)	 82 (EACH • 85)	SPECIFICS OTHER SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L Straight Paths	 87 (EACH • 90) SPECIFICS OTHER	 88 (EACH • 91) SPECIFICS UNKNOWN			
VI Miscellaneous	M Backing Etc.	 89 BACKING VEH.	 90 OTHER VEH. OR OBJECT	90 Other Accident Type 90 Unknown Accident Type 00 No Impact		

29. Basis for Total Delta V (highest) 1*Delta V Calculated*

- (1) CRASH program—damage only routine
- (2) CRASH program—damage and trajectory routine
- (3) Missing vehicle algorithm

*Delta V Not Calculated*

- (4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
- (5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
- (6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

**COMPUTER GENERATED DELTA V**

30. Total Delta V

Secondary Highest

18.6 Nearest kph

(NOTE: 000 means less than  
0.5 kph)  
(160) 159.5 kph and above  
(999) Unknown

31. Longitudinal Component of  
Delta V18.5 Nearest kph

(NOTE: \_\_000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(\_\_999) Unknown

Secondary

Highest

32. Lateral Component of Delta V

+  
0 0 0 2-1.6 Nearest kph

(NOTE: \_\_000 means greater than  
-0.5 kph and less than +0.5 kph)  
(±160) ±159.5 kph and above  
(\_\_999) Unknown

33. Energy Absorption

0 2 6 9 0026863.4 Nearest 100 joules

(NOTE: 0000 means less than 50 joules)  
(9997) 999,650 joules or more  
(9999) Unknown

34. Confidence In Reconstruction Program  
Results (For Highest Delta V)

- (0) No reconstruction
- (1) Collision fits model — results appear reasonable
- (2) Collision fits model — results appear high
- (3) Collision fits model — results appear low
- (4) Borderline reconstruction — results appear reasonable

35. Type of Vehicle Inspection

- (0) No inspection
- (1) Complete inspection
- (2) Partial inspection (specify):

36. Is this an AOPS Vehicle?

- (0) No
- (1) Yes - researcher determined
- (2) VIN determined air bag system
- (3) VIN determined automatic (passive) belts
- (4) VIN determined air bag and automatic (passive) belts

IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [x] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [x] NO

37. Police Reported Other Drug Presence Ø

- (0) No other drugs present  
 (1) Yes (other drug present)  
 (7) Not reported  
 (8) No driver present  
 (9) Unknown

38. Police Reported Drug Evaluation Classification (DEC) Test For Driver Ø

- (0) No DEC process available or given  
 (1) DEC process given, results known  
 (2) DEC process given, results unknown  
 (3) DEC process available, unknown if given  
 (8) No driver present

39. Other Drug Specimen Test Type For Driver Ø

- (0) No specimen test given  
 (1) Blood test  
 (2) Urine test  
 (3) Other specimen tests (specify):  
 \_\_\_\_\_  
 (7) Unspecified specimen test  
 (8) No driver present  
 (9) Unknown if specimen test given

## DRUG EVALUATION CLASSIFICATION

### OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC Test Results	Specimen Test Results
Narcotic Drug	40. <u>Ø</u>	41. <u>Ø</u>
Depressant Drug	42. <u>Ø</u>	43. <u>Ø</u>
Stimulant Drug	44. <u>Ø</u>	45. <u>Ø</u>
Hallucinogen Drug	46. <u>Ø</u>	47. <u>Ø</u>
Cannabinoid Drug	48. <u>Ø</u>	49. <u>Ø</u>
Phencyclidine (PCP)	50. <u>Ø</u>	51. <u>Ø</u>
Inhalant Drug	52. <u>Ø</u>	53. <u>Ø</u>
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. <u>Ø</u>	55. <u>Ø</u>

## Codes For DEC Test Results

- (0) No DEC test given  
 (1) Passed DEC test  
 (2) Failed DEC test  
 (3) DEC test given—results unknown  
 (8) No driver present  
 (9) Unknown if DEC test given

## Codes for Specimen Test Results

- (0) No specimen test given  
 (1) Drug not found in specimen  
 (2) Drug found in specimen  
 (7) Specimen test given, results unknown or not obtained  
 (8) No driver present  
 (9) Unknown if specimen test given

**OTHER DATA**

## 56. Driver's Zip Code

- (00000) Driver not present  
 (00001) Driver not a resident of U.S. or territories  
 Code actual 5-digit zip code  
 (99999) Unknown

## 57. Driver's Race/Ethnic Origin

- (0) Driver not present  
 (1) White (non-Hispanic)  
 (2) Black (non-Hispanic)  
 (3) White (Hispanic)  
 (4) Black (Hispanic)  
 (5) American Indian, Eskimo or Aleut  
 (6) Asian or Pacific Islander  
 (8) Other (specify):  
 (9) Unknown

## 58. Vehicle Special Use (This Trip)

- (0) No special use  
 (1) Taxi  
 (2) Vehicle used as school bus  
 (3) Vehicle used as other bus  
 (4) Military  
 (5) Police  
 (6) Ambulance  
 (7) Fire truck or car  
 (8) Other (specify):  
 (9) Unknown

**ROLLOVER DATA**

If GV07 (Body Type)  $\neq$  1-49, leave GV59-GV63 blank.  
 If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.  
 If GV24 = 9, then GV59-GV63 must equal 9.

## 59. Rollover Initiation Type

- (0) No rollover  
 (1) Trip-over  
 (2) Flip-over  
 (3) Turn-over  
 (4) Climb-over  
 (5) Fall-over  
 (6) Bounce-over  
 (7) Collision with another vehicle  
 (8) Other rollover initiation type specify):  
 (9) Unknown rollover initiation type

## 60. Location of Rollover Initiation

- (0) No rollover  
 (1) On roadway  
 (2) On shoulder—paved  
 (3) On shoulder—unpaved  
 (4) On roadside or divided trafficway median  
 (9) Unknown

## 61. Rollover Initiation Object Contacted

## 62. Location on Vehicle Where Initial Principal Tripping Force Is Applied

- (0) No rollover  
 (1) Wheels/tires  
 (2) Side plane  
 (3) End plane  
 (4) Undercarriage  
 (5) Other location on vehicle (specify):  
 (8) Non-contact rollover forces (specify):  
 (9) Unknown

## 63. Direction of Initial Roll

- (0) No rollover  
 (1) Roll right - primarily about the longitudinal axis  
 (2) Roll left - primarily about the longitudinal axis  
 (5) End-over-end (i.e., primarily about the lateral axis)  
 (9) Unknown roll direction

**PRECRASH DATA**

## 64. Pre-Event Movement (Prior to Recognition of Critical Event)

- (01) Going straight  
 (02) Slowing or stopping in traffic lane  
 (03) Starting in traffic lane  
 (04) Stopped in traffic lane  
 (05) Passing or overtaking another vehicle  
 (06) Disabled or parked in travel lane  
 (07) Leaving a parking position  
 (08) Entering a parking position  
 (09) Turning right  
 (10) Turning left  
 (11) Making a U-turn  
 (12) Backing up (other than for parking position)  
 (13) Negotiating a curve  
 (14) Changing lanes  
 (15) Merging  
 (16) Successful avoidance maneuver to a previous critical event  
 (97) Other (specify):  
 (98) No driver present  
 (99) Unknown

## CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

- (00) No rollover
- (01-30) — Vehicle Number

### Noncollision

- (31) Turn-over — fall-over
- (33) Jackknife

### Collision With Fixed Object

- (41) Tree ( $\leq 10$  cm in diameter)
- (42) Tree ( $> 10$  cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment

- (45) Breakaway pole or post (any diameter)

### Nonbreakaway Pole or Post

- (50) Pole or post ( $\leq 10$  cm in diameter)
- (51) Pole or post ( $> 10$  cm but  $\leq 30$  cm in diameter)
- (52) Pole or post ( $> 30$  cm in diameter)
- (53) Pole or post (diameter unknown)

- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail)  
(specify): \_\_\_\_\_

- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): \_\_\_\_\_

- (69) Unknown fixed object

### Collision with Nonfixed Object

- (71) Motor vehicle not in-transport
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (88) Other nonfixed object (specify): \_\_\_\_\_

- (89) Unknown nonfixed object

- (98) Other event (specify): \_\_\_\_\_

- (99) Unknown event or object



## PRECRASH DATA (Continued)

65. Critical Precrash Event 5 2*This Vehicle Loss of Control Due To:*

- (01) Blow out or flat tire
- (02) Stalled engine
- (03) Disabling vehicle failure (e.g., wheel fell off)  
(specify): \_\_\_\_\_
- (04) Non-disabling vehicle problem (e.g., hood flew up) (specify): \_\_\_\_\_
- (05) Poor road conditions (puddle, pot hole, ice, etc.)  
(specify): \_\_\_\_\_
- (06) Traveling too fast for conditions
- (08) Other cause of control loss (specify): \_\_\_\_\_
- (09) Unknown cause of control loss

*This Vehicle Traveling*

- (10) Over the lane line on left side of travel lane
- (11) Over the lane line on right side of travel lane
- (12) Off the edge of the road on the left side
- (13) Off the edge of the road on the right side
- (14) End departure
- (15) Turning left at intersection
- (16) Turning right at intersection
- (17) Crossing over (passing through) intersection
- (19) Unknown travel direction

*Other Motor Vehicle In Lane*

- (50) Stopped
- (51) Traveling in same direction with lower speed  
(i.e., lower steady speed or decelerating)
- (52) Traveling in same direction with higher speed
- (53) Traveling in opposite direction
- (54) In crossover
- (55) Backing
- (59) Unknown travel direction of other motor vehicle  
in lane

*Other Motor Vehicle Encroaching Into Lane*

- (60) From adjacent lane (same direction)—over left  
lane line
- (61) From adjacent lane (same direction)—over right  
lane line
- (62) From opposite direction—over left lane line
- (63) From opposite direction—over right lane line
- (64) From parking lane
- (65) From crossing street, turning into same  
direction
- (66) From crossing street, across path
- (67) From crossing street, turning into opposite  
direction
- (68) From crossing street, intended path not known
- (70) From driveway, turning into same direction
- (71) From driveway, across path
- (72) From driveway, turning into opposite direction
- (73) From driveway, intended path not known
- (74) From entrance to limited access highway
- (78) Encroachment by other vehicle—details  
unknown

*Pedestrian or Pedalcyclist, or Other Nonmotorist*

- (80) Pedestrian in roadway
- (81) Pedestrian approaching roadway
- (82) Pedestrian - unknown location
- (83) Pedalcyclist or other nonmotorist in roadway  
(specify): \_\_\_\_\_
- (84) Pedalcyclist or other nonmotorist approaching  
roadway (specify): \_\_\_\_\_
- (85) Pedalcyclist or other nonmotorist—unknown  
location (specify): \_\_\_\_\_

*Object or Animal*

- (87) Animal in roadway
- (88) Animal approaching roadway
- (89) Animal—unknown location
- (90) Object in roadway
- (91) Object approaching roadway
- (92) Object—unknown location

(98) Other critical precrash event (specify): \_\_\_\_\_

(99) Unknown

For Corrective Actions Attempted see variable GV14  
(Attempted Avoidance Maneuver)66. Precrash Stability After Avoidance Maneuver Ø

- (0) No avoidance maneuver
- (1) Tracking
- (2) Skidding longitudinally—rotation less than 30  
degrees
- (3) Skidding laterally—clockwise rotation
- (4) Skidding laterally—counterclockwise rotation
- (7) Other vehicle loss-of-control (specify): \_\_\_\_\_

(8) No driver present

(9) Precrash stability unknown

67. Precrash Directional Consequences of  
Avoidance Maneuver (Corrective Action) Ø

- (0) No avoidance maneuver
- (1) Vehicle stayed in travel lane where avoidance  
maneuver was initiated
- (2) Vehicle stayed on roadway but left travel lane  
where avoidance maneuver was initiated
- (3) Vehicle stayed on roadway, not known if left  
travel lane where avoidance maneuver was  
initiated
- (4) Vehicle departed roadway
- (5) Avoidance maneuver initiated off roadway
- (8) No driver present
- (9) Directional consequences unknown

\*\*\* IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), \*\*\*  
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

\*\*\* IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE \*\*\*  
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,  
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

## EXTERIOR VEHICLE FORM

**NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM**

1. Primary Sampling Unit Number	_____	3. Vehicle Number	<u>2</u>
2. Case Number - Stratum	<u>DSF-93-AB-018</u>		

## VEHICLE IDENTIFICATION

VIN 5T4YN1300L5XXXXXX Model Year 90  
Vehicle Make (specify): TOYOTA Vehicle Model (specify): 4x4 Pickup SR5

## LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L
Q1	Begins R/C B/corner	REAR BUMPER

### CRUSH PROFILE IN CENTIMETERS

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

**Measure and document on the vehicle diagram the location of maximum crush.**

**Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.**

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

**Use as many lines/columns as necessary to describe each damage profile.**

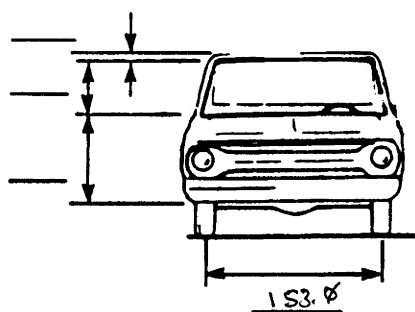
[illegible]

# ORIGINAL SPECIFICATIONS WORK SHEET

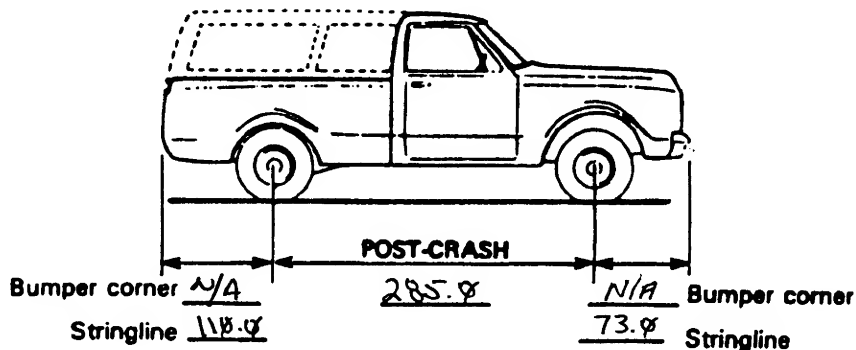
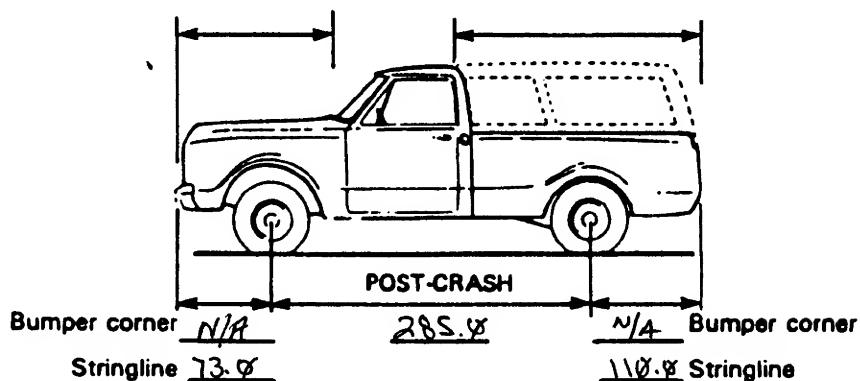
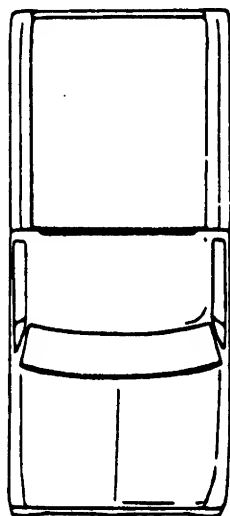
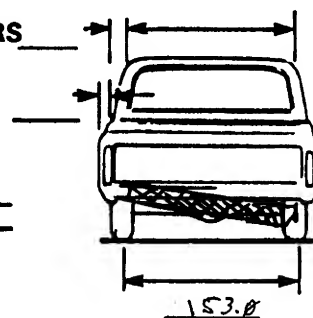
Wheelbase	<u>1</u> <u>1</u> <u>2</u> . <u>2</u>	inches	x 2.54	=	<u>2</u> <u>8</u> <u>5</u>	cm
Overall Length	<u>1</u> <u>8</u> <u>4</u> . <u>3</u>	inches	x 2.54	=	<u>4</u> <u>6</u> <u>8</u>	cm
Maximum Width	<u>4</u> <u>6</u> <u>6</u> . <u>5</u>	inches	x 2.54	=	<u>1</u> <u>6</u> <u>9</u>	cm
Curb Weight	<del>0</del> <u>2</u> , <u>9</u> <u>3</u> <u>2</u>	pounds	x .4536	=	<u>1</u> , <u>3</u> <u>3</u> <u>0</u>	kg
Average Track	<del>0</del> <u>5</u> <u>0</u> . <u>2</u>	inches	x 2.54	=	<u>1</u> <u>5</u> <u>3</u>	cm
Front Overhang	<del>0</del> <u>2</u> <u>8</u> . <u>7</u>	inches	x 2.54	=	<del>0</del> <u>7</u> <u>3</u>	cm
Rear Overhang	<del>0</del> <u>4</u> <u>3</u> . <u>3</u>	inches	x 2.54	=	<u>1</u> <u>1</u> <del>0</del>	cm
Undeformed End Width	<del>0</del> <u>6</u> <u>3</u> . <del>0</del>	inches	x 2.54	=	<u>1</u> <u>6</u> <del>0</del>	cm
Engine Size: cyl./displ.	<u>2</u> <u>4</u> <del>0</del> <del>0</del>	cc	x .001	=	<u>2</u> . <u>4</u>	L
	<u>1</u> <u>4</u> <u>6</u>	CID	x .0164	=	<u>2</u> . <u>4</u>	L

## VEHICLE DAMAGE SKETCH

<b>TIRE—WHEEL DAMAGE</b> a. Rotation physically restricted      b. Tire deflated  RF <u>2</u> RF <u>2</u> LF <u>2</u> LF <u>2</u> RR <u>2</u> RR <u>2</u> LR <u>2</u> LR <u>2</u>  (1) Yes (2) No (8) NA (9) Unk.		<b>ORIGINAL SPECIFICATIONS</b>  Wheelbase <u>285.0</u> cm Overall Length <u>468.0</u> cm Maximum Width <u>169.0</u> cm Curb Weight <u>1330</u> kg Average Track <u>153.0</u> cm Front Overhang <u>73.0</u> cm Rear Overhang <u>110.0</u> cm Undeformed End Width <u>160.0</u> cm Engine Size: cyl./displ. <u>I4 / 2.4</u> L		<b>WHEEL STEER ANGLES</b> (For locked front wheels or displaced rear axles only) RF ± _____ ° LF ± _____ ° RR ± _____ ° LR ± _____ ° Within ± 5 degrees
<b>TYPE OF TRANSMISSION</b> <input checked="" type="checkbox"/> Manual <input type="checkbox"/> Automatic		<b>DRIVE WHEELS</b> <input type="checkbox"/> FWD <input type="checkbox"/> RWD <input checked="" type="checkbox"/> 4WD		
		Approximate Cargo Weight <u>0</u> kg		



## MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

**CODES FOR OBJECT CONTACTED**

## DEFORMATION CLASSIFICATION BY EVENT NUMBER

[illegible]

## COLLISION DEFORMATION CLASSIFICATION

## HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. <u>Ø 1</u>	5. <u>Ø 1</u>	6. <u>Ø b</u>	7. <u>B</u>	8. <u>Y</u>	9. <u>L</u>	10. <u>W</u>	11. <u>Ø 1</u>

## Second Highest Delta "V"

12. \_\_\_\_\_ 13. \_\_\_\_\_ 14. \_\_\_\_\_ 15. \_\_\_\_\_ 16. \_\_\_\_\_ 17. \_\_\_\_\_ 18. \_\_\_\_\_ 19. \_\_\_\_\_

## CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

(us)

## HIGHEST DELTA "V"

20. L	21. C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	22. ± D
<u>1 6 Ø</u>	<u>Ø Ø 7</u>	<u>Ø Ø 7</u>	<u>Ø 1 7</u>	<u>Ø 1 2</u>	<u>Ø Ø 3</u>	<u>Ø Ø 2</u>	<u>± Ø 3 Ø</u>
(63.Ø)	(2.8)	(2.8)	.	(6.7)	(1.2)	(Ø.8)	(-11.8)

## Second Highest Delta "V"

23. L	24. C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	25. ± D
_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____

26. Are CDCs Documented but Not Coded on The Automated File?  
(0) No  
(1) Yes

Ø

27. Researcher's Assessment of Vehicle Disposition  
(0) Not towed due to vehicle damage  
(1) Towed due to vehicle damage  
(9) Unknown

Ø

28. Original Wheelbase \_\_\_\_\_ Code to the nearest centimeter  
(999) Unknown

2 8 5

1 1 2 . 2 inches X 2.54 = 2 8 5 centimeters

29. Is This A Multi-Stage Manufactured Vehicle  
And/Or A Certified Altered Vehicle?

0

(0) No post manufacturer modifications

(1) Yes - post manufacturer modifications  
(specify): \_\_\_\_\_

\_\_\_\_\_  
(Include photograph of CERTIFICATION  
PLACARD in case report)

(9) Unknown if vehicle is modified

30. Fire Occurrence

0

(0) No fire

Yes, fire occurred

(1) Minor

(2) Major

(9) Unknown

31. Origin of Fire

0

(0) No fire

(1) Vehicle exterior (front, side, back, top)

(2) Exhaust system

(3) Fuel tank (and other fuel retention  
system parts)

(4) Engine compartment

(5) Cargo/trunk compartment

(6) Instrument panel

(7) Passenger compartment area

(8) Other location (specify): \_\_\_\_\_

(9) Unknown

32. Type of Fuel Tank

1

(0) No fuel tank (electrical vehicle)

(1) Metallic

(2) Non-metallic

(9) Unknown

\*\*\* STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS \*\*\*  
(I.E., GV09 = 0 OR 9 AND GV36 = 0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.



## INTERIOR VEHICLE FORM

1. Primary Sampling Unit Number

2. Case Number - Stratum

DSI-93-CS-018

3. Vehicle Number

02

## INTEGRITY

4. Passenger Compartment Integrity

(00) No integrity loss

00

Yes, Integrity Was Lost Through

- (01) Windshield  
(02) Door (side)  
(03) Door/hatch (back door)  
(04) Roof  
(05) Roof glass  
(06) Side window  
(07) Rear window (backlight)  
(08) Roof and roof glass  
(09) Windshield and door (side)  
(10) Windshield and roof  
(11) Side and rear window (side window and backlight)  
(12) Windshield and side window  
(13) Door and side window  
(98) Other combination of above (specify):  
\_\_\_\_\_  
(99) Unknown

## Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 0 8. RR 0 9. TG/H 0

- (0) No door/gate/hatch  
(1) Door/gate/hatch remained closed and operational  
(2) Door/gate/hatch came open during collision  
(3) Door/gate/hatch jammed shut  
(8) Other (specify):  
\_\_\_\_\_  
(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09  $\neq$  2, Then code 010. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

- (0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision

- (1) Door operational (no damage)  
(2) Latch/striker failure due to damage  
(3) Hinge failure due to damage  
(4) Door structure failure due to damage  
(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage  
(6) Latch/striker and hinge failure due to damage  
(8) Other failure (specify):  
\_\_\_\_\_  
(9) Unknown

## GLAZING

## Glazing Damage from Impact Forces

15. WS 0 16. LF 0 17. RF 0 18. LR 0 19. RR 0  
20. BL 0 21. Roof 0 22. Other 0

- (0) No glazing damage from impact forces  
(2) Glazing in place and cracked from impact forces  
(3) Glazing in place and holed from impact forces  
(4) Glazing out-of-place (cracked or not) and not holed from impact forces  
(5) Glazing out-of-place and holed from impact forces  
(6) Glazing disintegrated from impact forces  
(7) Glazing removed prior to accident  
(8) No glazing  
(9) Unknown if damaged

## Glazing Damage from Occupant Contact

23. WS 0 24. LF 0 25. RF 0 26. LR 0 27. RR 0  
28. BL 0 29. Roof 0 30. Other 0

- (0) No occupant contact to glazing or no glazing  
(1) Glazing contacted by occupant but no glazing damage  
(2) Glazing in place and cracked by occupant contact  
(3) Glazing in place and holed by occupant contact  
(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact  
(5) Glazing out-of-place by occupant contact and holed by occupant contact  
(6) Glazing disintegrated by occupant contact  
(9) Unknown if contacted by occupant

If No Glazing Damage **And** No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As 0

## Type of Window/Windshield Glazing

31. WS 0 32. LF 0 33. RF 0 34. LR 0 35. RR 0  
36. BL 0 37. Roof 0 38. Other 0

- (0) No glazing contact and no damage, or no glazing  
(1) AS-1 - Laminated  
(2) AS-2 - Tempered  
(3) AS-3 - Tempered-tinted  
(4) AS-14 - Glass/Plastic  
(8) Other (specify):  
\_\_\_\_\_  
(9) Unknown

## Window Precrash Glazing Status

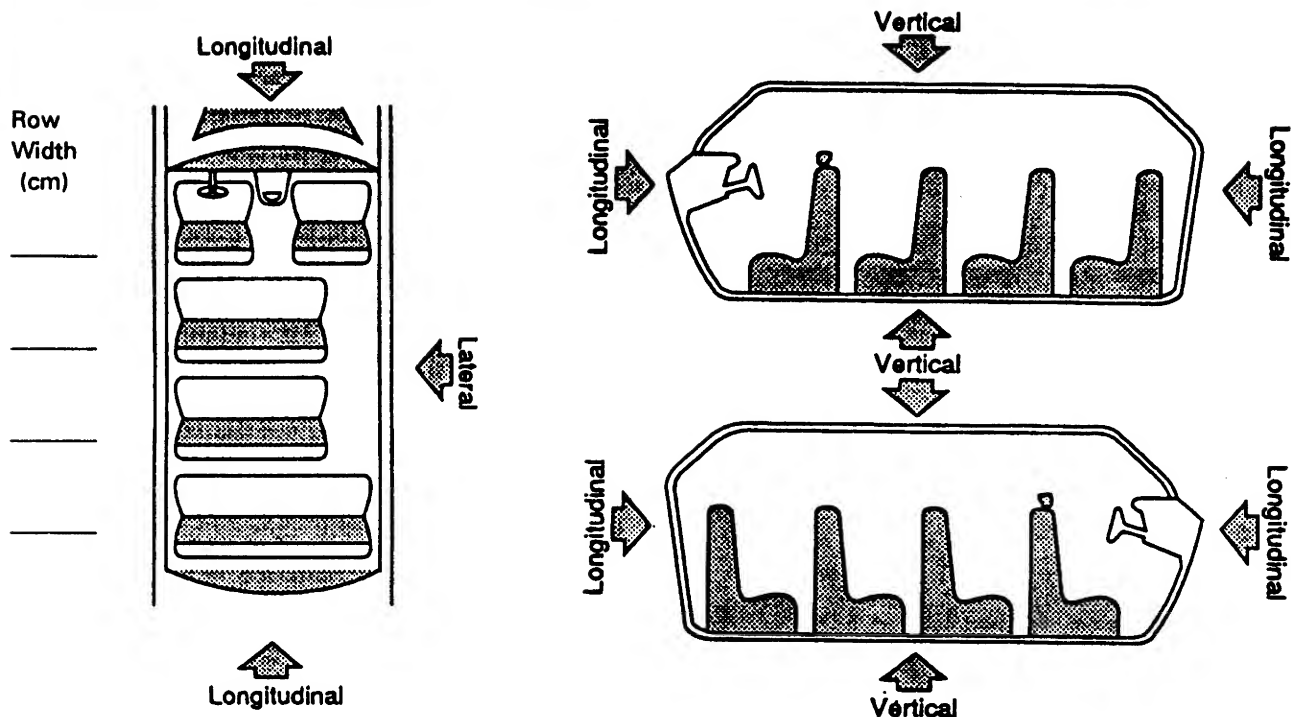
39. WS 0 40. LF 0 41. RF 0 42. LR 0 43. RR 0  
44. BL 0 45. Roof 0 46. Other 0

- (0) No glazing contact and no damage, or no glazing  
(1) Fixed  
(2) Closed  
(3) Partially opened  
(4) Fully opened  
(9) Unknown



# INTRUSION WORKSHEET

Note: Sketch intruded areas



LOCATION OF INTRUSION	INTRUDED COMPONENT	(All Measurements Are In Centimeters)			DOMINANT CRUSH DIRECTION
		COMPARISON VALUE	INTRUDED VALUE	INTRUSION	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	
		-		=	

## OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

## INTRUDING COMPONENT

*Interior Components*

- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify): \_\_\_\_\_

- (27) Side panel - forward of the A (A2)-pillar
- (28) Side panel - rear of the A (A2)-pillar

*Exterior Components*

- (30) Hood
- (31) Outside surface of this vehicle (specify): \_\_\_\_\_
- (32) Other exterior object in the environment (specify): \_\_\_\_\_
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): \_\_\_\_\_
- (99) Unknown

## MAGNITUDE OF INTRUSION

- (1)  $\geq 3$  centimeters but  $< 8$  centimeters
- (2)  $\geq 8$  centimeters but  $< 15$  centimeters
- (3)  $\geq 15$  centimeters but  $< 30$  centimeters
- (4)  $\geq 30$  centimeters but  $< 46$  centimeters
- (5)  $\geq 46$  centimeters but  $< 61$  centimeters
- (6)  $\geq 61$  centimeters
- (7) Catastrophic
- (9) Unknown

## DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47. _____	48. _____	49. _____	50. _____
2nd	51. _____	52. _____	53. _____	54. _____
3rd	55. _____	56. _____	57. _____	58. _____
4th	59. _____	60. _____	61. _____	62. _____
5th	63. _____	64. _____	65. _____	66. _____
6th	67. _____	68. _____	69. _____	70. _____
7th	71. _____	72. _____	73. _____	74. _____
8th	75. _____	76. _____	77. _____	78. _____
9th	79. _____	80. _____	81. _____	82. _____
10th	83. _____	84. _____	85. _____	86. _____

## LOCATION OF INTRUSION

## Front Seat

- (11) Left
- (12) Middle
- (13) Right

## Fourth Seat

- (41) Left
- (42) Middle
- (43) Right

## Second Seat

- (21) Left
- (22) Middle
- (23) Right

- (97) Catastrophic
- (98) Other enclosed area (specify) \_\_\_\_\_

(99) Unknown

## Third Seat

- (31) Left
- (32) Middle
- (33) Right

## STEERING RIM/SPOKE DEFORMATION

(All Measurements Are in Centimeters)

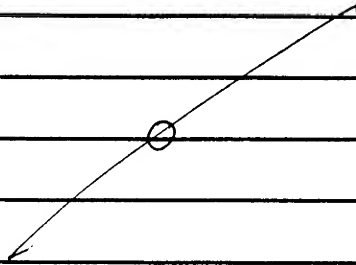
COMPARISON VALUE

—

DAMAGE VALUE

=

DEFORMATION



—

=

—

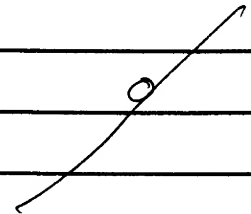
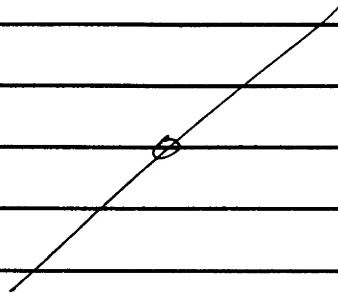
=

—

=

—

=



**STEERING COLUMN**87. Steering Column Type 2

- (1) Fixed column  
 (2) Tilt column  
 (3) Telescoping column  
 (4) Tilt and telescoping column  
 (8) Other column type (specify):

(9) Unknown

88. Blank X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

89. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

90. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

91. Blank X X X

(This variable is left blank so that numbering consistency can be maintained with the 1988-93 CDS.

92. Steering Rim/Spoke Deformation Ø Ø

Code actual measured

- deformation to the nearest centimeter  
 (00) No steering rim deformation  
 (01-14) Actual measured value in centimeters  
 (15) 15 centimeters or more  
 (98) Observed deformation cannot be measured  
 (99) Unknown

93. Location of Steering Rim/Spoke Deformation Ø Ø

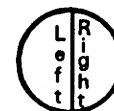
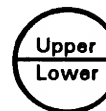
(00) No steering rim deformation

*Quarter Sections*

- (01) Section A  
 (02) Section B  
 (03) Section C  
 (04) Section D

*Half Sections*

- (05) Upper half of rim/spoke  
 (06) Lower half of rim/spoke  
 (07) Left half of rim/spoke  
 (08) Right half of rim/spoke



- (09) Complete steering wheel collapse  
 (10) Undetermined location  
 (99) Unknown

**INSTRUMENT PANEL**94. Odometer Reading 1 05,000

           kilometers—Code to the nearest 1,000 kilometers

- (000) No odometer  
 (001) Less than 1,500 kilometers  
 (500) 499,500 kilometers or more  
 (999) Unknown

065,285 miles X 1.6093 = 105,063 kilometers

Source: Inspection

95. Instrument Panel Damage from Occupant Contact? Ø

- (0) No  
 (1) Yes  
 (9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? Ø

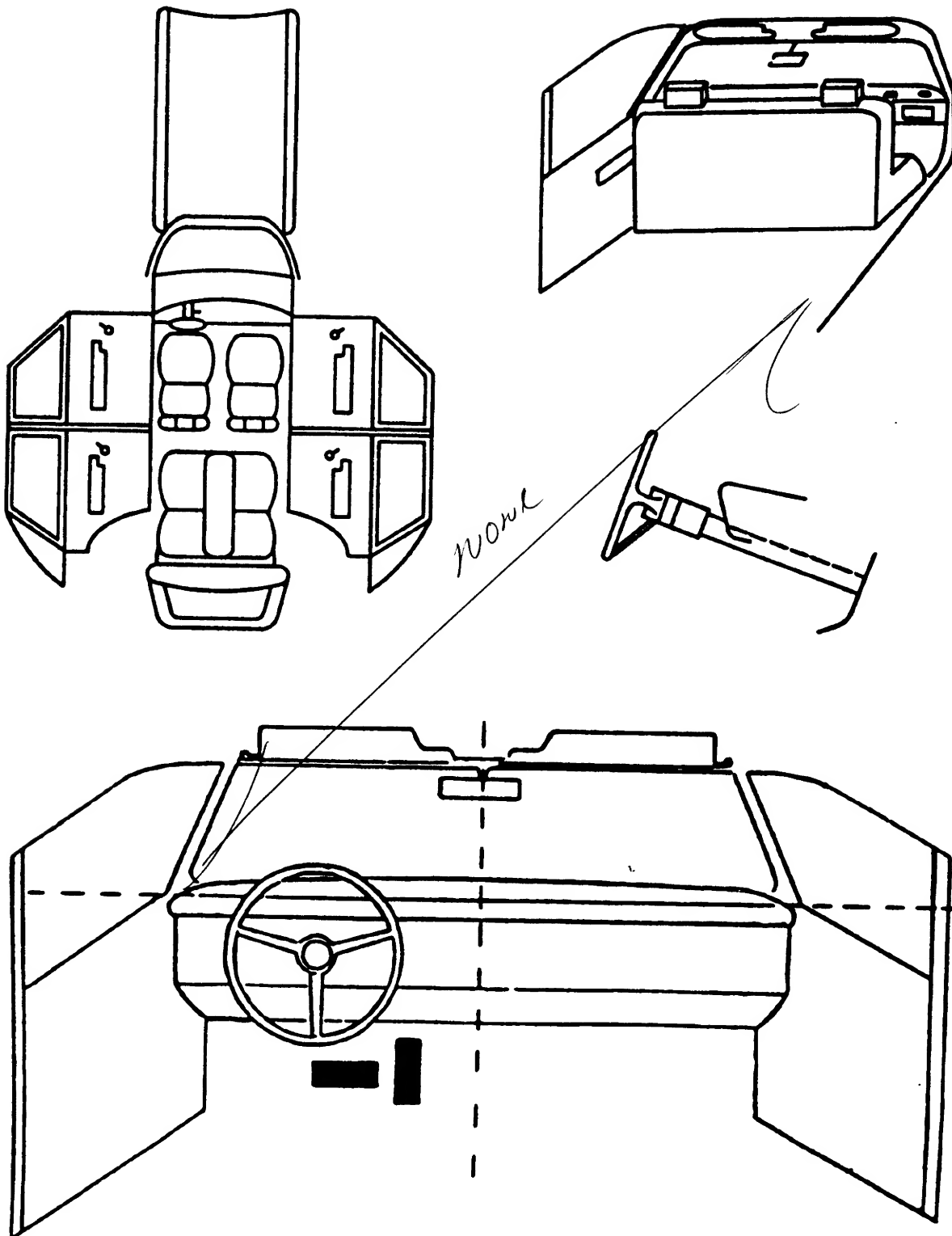
- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? Ø

- (0) No  
 (1) Yes  
 (8) Not present  
 (9) Unknown

## VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure).

Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.

Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

## POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A					
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

## CODES FOR INTERIOR COMPONENTS

## FRONT

- (01) Windshield
- (02) Mirror
- (03) Sunvisor
- (04) Steering wheel rim
- (05) Steering wheel hub/spoke
- (06) Steering wheel (combination of codes 04 and 05)
- (07) Steering column, transmission selector lever, other attachment
- (08) Add on equipment (e.g., CB, tape deck, air conditioner)
- (09) Left instrument panel and below
- (10) Center instrument panel and below
- (11) Right instrument panel and below
- (12) Glove compartment door
- (13) Knee bolster
- (14) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify): \_\_\_\_\_
- (19) Other front object (specify): \_\_\_\_\_

## LEFT SIDE

- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-pillar

- (23) Left B-pillar
- (24) Other left pillar (specify): \_\_\_\_\_
- (25) Left side window glass or frame
- (26) Left side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B-pillar, or roof side rail.
- (27) Other left side object (specify): \_\_\_\_\_
- (28) Left side window sill
- RIGHT SIDE
- (30) Right side interior surface, excluding hardware or armrests
- (31) Right side hardware or armrest
- (32) Right A (A1/A2)-pillar
- (33) Right B-pillar
- (34) Other right pillar (specify): \_\_\_\_\_
- (35) Right side window glass or frame
- (36) Right side window glass including one or more of the following: frame, window sill, A (A1/A2)-pillar, B pillar, or roof side rail.
- (37) Other right side object (specify): \_\_\_\_\_
- (38) Right side window sill

## INTERIOR

- (40) Seat, back support
- (41) Belt restraint webbing/buckle
- (42) Belt restraint B-pillar attachment point
- (43) Other restraint system component (specify): \_\_\_\_\_
- (44) Head restraint system
- (45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)

- (46) Other occupants (specify): \_\_\_\_\_

- (47) Interior loose objects
- (48) Child safety seat (specify): \_\_\_\_\_
- (49) Other interior object (specify): \_\_\_\_\_

## ROOF

- (50) Front header
- (51) Rear header
- (52) Roof left side rail
- (53) Roof right side rail
- (54) Roof or convertible top

## FLOOR

- (56) Floor (including toe pan)
- (57) Floor or console mounted transmission lever, including console
- (58) Parking brake handle
- (59) Foot controls including parking brake

## REAR

- (60) Backlight (rear window)
- (61) Backlight storage rack, door, etc.
- (62) Other rear object (specify): \_\_\_\_\_

## CONFIDENCE LEVEL OF CONTACT POINT

- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

## AUTOMATIC RESTRAINTS

**NOTES:** Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

### AIR BAGS

		Left	Right
FIRST	Availability/Function	Ø	Ø
	Deployment	Ø	Ø
	Failure	Ø	Ø

#### Air Bag System Availability/Function

- (0) Not equipped/not available
- (1) Air bag

*No...functional*

- (2) Air bag disconnected (specify): \_\_\_\_\_

- (3) Air bag not reinstalled
- (9) Unknown

#### Air Bag System Deployment

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

#### Did Air Bag System Fail?

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_
- (9) Unknown

### AUTOMATIC BELTS

		Left	Right
FIRST	Availability/Function	Ø	Ø
	Use	Ø	Ø
	Type	Ø	Ø
	Proper Use	Ø	Ø
	Failure Modes	Ø	Ø

#### Automatic (Passive) Belt System Availability/Function

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

#### Automatic (Passive) Belt System Use

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative)
- (3) Automatic belt use unknown
- (9) Unknown

#### Automatic (Passive) Belt System Type

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

#### Proper Use of Automatic (Passive) Belt System

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

#### Automatic Belt Used Improperly

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_
- (8) Other improper use of automatic belt system (specify): \_\_\_\_\_
- (9) Unknown

#### Automatic (Passive) Belt Failure Modes During Accident

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_
- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other automatic belt failure (specify): \_\_\_\_\_
- (9) Unknown

**MANUAL RESTRAINTS**

**NOTES:** Encode the applicable data for **each seat position** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	Ø	4
	Use	Ø4	ØØ	Ø4
	Failure Modes	1	Ø	Ø
SECOND	Availability	4	Ø	4
	Use	ØØ	ØØ	ØØ
	Failure Modes	Ø	Ø	Ø
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

**Manual (Active) Belt System Availability**

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available - type unknown

**Integral Belt Partially Destroyed**

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown

**Manual (Active) Belt System Use**

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (specify): \_\_\_\_\_
- (02) Shoulder belt
- (03) Lap belt
- (04) Lap and shoulder belt
- (05) Belt used - type unknown

(08) Other belt used (specify): \_\_\_\_\_

- (12) Shoulder belt used with child safety seat
- (13) Lap belt used with child safety seat
- (14) Lap and shoulder belt used with child safety seat
- (15) Belt used with child safety seat - type unknown
- (18) Other belt used with child safety seat (specify): \_\_\_\_\_
- (99) Unknown if belt used

**Manual (Active) Belt Failure Modes During Accident**

- (0) No manual belt used or not available
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_
- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other manual belt failure (specify): \_\_\_\_\_
- (9) Unknown



## CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number						
1. Type of Child Safety Seat						
2. Child Safety Seat Orientation						
3. Child Safety Seat Harness Usage						
4. Child Safety Seat Shield Usage						
5. Child Safety Seat Tether Usage						
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat					

### 1. Type of Child Safety Seat

- (0) No child safety seat
- (1) Infant seat
- (2) Toddler seat
- (3) Convertible seat
- (4) Booster seat
- (7) Other type child safety seat (specify):

- (8) Unknown child safety seat type
- (9) Unknown if child safety seat used

### 2. Child Safety Seat Orientation

- (00) No child safety seat
- Designed for Rear Facing for This Age/Weight
- (01) Rear facing
- (02) Forward facing
- (08) Other orientation (specify):
- (09) Unknown orientation

Designed for Forward Facing for This Age/Weight

- (11) Rear facing
- (12) Forward facing
- (18) Other orientation (specify):

- (19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight

- (21) Rear facing
- (22) Forward facing
- (28) Other orientation (specify):

- (29) Unknown orientation

- (99) Unknown if child safety seat used

### 3. Child Safety Seat Harness Usage

### 4. Child Safety Seat Shield Usage

### 5. Child Safety Seat Tether Usage

Note: Options Below Are Used for Variables 3-5.

- (00) No child safety seat

Not Designed with Harness/Shield/Tether

- (01) After market harness/shield/tether added, not used
- (02) After market harness/shield/tether used
- (03) Child safety seat used, but no after market harness/shield/tether added
- (09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether

- (11) Harness/shield/tether not used
- (12) Harness/shield/tether used
- (19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether

- (21) Harness/shield/tether not used
- (22) Harness/shield/tether used
- (29) Unknown if harness/shield/tether used

- (99) Unknown if child safety seat used

### 6. Child Safety Seat Make/Model

(Specify make/model and occupant number)

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**HEAD RESTRAINTS/SEAT EVALUATION**

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
F I R S T	Head Restraint Type/Damage	3	Ø	3
	Seat Type	Ø 2	Ø Ø	Ø 2
	Seat Performance	1	Ø	1
	Seat Orientation	1	Ø	1
S E C O N D	Head Restraint Type/Damage	Ø	Ø	Ø
	Seat Type	Ø 9	Ø 9	Ø 9
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
T H I R D	Head Restraint Type/Damage	/	/	/
	Seat Type			
	Seat Performance			
	Seat Orientation			
O T H E R	Head Restraint Type/Damage	/	/	/
	Seat Type			
	Seat Performance			
	Seat Orientation			

**Head Restraint Type/Damage by Occupant at This Occupant Position**

- (0) No head restraints
- (1) Integral — no damage
- (2) Integral — damaged during accident
- (3) Adjustable — no damage
- (4) Adjustable — damaged during accident
- (5) Add-on — no damage
- (6) Add-on — damaged during accident
- (8) Other Specify):

(9) Unknown

**Seat Type (this Occupant Position)**

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify):  
Fold down Imp Seats
- (10) Box mounted seat (i.e., van type)
- (99) Unknown

**Seat Performance (this Occupant Position)**

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed specify:
- (4) Seat tracks/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify):

(7) Combination of above (specify):

(8) Other (specify):

(9) Unknown

**Seat Orientation (this Occupant Position)**

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):

(9) Unknown

**DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)**

**EJECTION/ENTRAPMENT DATA**

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

**EJECTION** No [ ☒ ] Yes [ ☐ ]

Describe indications of ejection and body parts involved in partial ejection(s):

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Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

**Ejection**

- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, Unknown degree
- (9) Unknown

**Ejection Area**

- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear

**(7) Roof**

- (8) Other area (e.g., back of pickup, etc.) (specify):

(9) Unknown

**Ejection Medium**

- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify):

**(5) Integral structure**

- (8) Other medium (specify):

(9) Unknown

**Medium Status (Immediately Prior to Impact)**

- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

**ENTRAPMENT** No [ ☒ ] Yes [ ☐ ]

Describe entrapment mechanism: \_\_\_\_\_

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Component(s): \_\_\_\_\_

(Note in vehicle interior diagram)

National Highway Traffic Safety  
Administration

## OCCUPANT ASSESSMENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

## OCCUPANT'S SEATING

1. Primary Sampling Unit Number \_\_\_\_\_
2. Case Number - Stratum DS-93-AB-018
3. Vehicle Number 02
4. Occupant Number 01

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 40  
Code actual age at time of accident.  
(00) Less than one year old (specify by month): \_\_\_\_\_  
(97) 97 years and older \_\_\_\_\_  
(99) Unknown
6. Occupant's Sex 2  
(1) Male  
(2) Female  
(9) Unknown
7. Occupant's Height 165  
Code actual height to the nearest centimeter.  
(999) Unknown  
65 inches X 2.54 = 165 centimeters
8. Occupant's Weight 057  
Code actual weight to the nearest kilogram.  
(999) Unknown  
125 pounds X .4536 = 057 kilograms
9. Occupant's Role 1  
(1) Driver  
(2) Passenger  
(9) Unknown

10. Occupant's Seat Position 11  
*Front Seat*  
(11) Left side  
(12) Middle  
(13) Right side  
(14) Other (specify): \_\_\_\_\_  
(15) On or in the lap of another occupant
- Second Seat*  
(21) Left side  
(22) Middle  
(23) Right side  
(24) Other (specify): \_\_\_\_\_  
(25) On or in the lap of another occupant
- Third Seat*  
(31) Left side  
(32) Middle  
(33) Right side  
(34) Other (specify): \_\_\_\_\_  
(35) On or in the lap of another occupant
- Fourth Seat*  
(41) Left side  
(42) Middle  
(43) Right side  
(44) Other (specify): \_\_\_\_\_  
(45) On or in the lap of another occupant
- (97) In or on unenclosed area  
(98) Other seat (specify): \_\_\_\_\_  
(99) Unknown
11. Occupant's Posture 0  
(0) Normal posture
- Abnormal posture*  
(1) Kneeling or standing on seat  
(2) Lying on or across seat  
(3) Kneeling, standing or sitting in front of seat  
(4) Sitting sideways or turned to talk with another occupant or to look out a rear window  
(5) Sitting on a console  
(6) Lying back in a reclined seat position  
(7) Bracing with feet or hands on a surface in front of seat  
(8) Other abnormal posture (specify): \_\_\_\_\_  
(9) Unknown

## EJECTION/ENTRAPMENT

## 12. Ejection

Ø

- (0) No ejection
- (1) Complete ejection
- (2) Partial ejection
- (3) Ejection, unknown degree
- (9) Unknown

## 13. Ejection Area

Ø

- (0) No ejection
- (1) Windshield
- (2) Left front
- (3) Right front
- (4) Left rear
- (5) Right rear
- (6) Rear
- (7) Roof
- (8) Other area (e.g., back of pickup, etc.)  
(specify): \_\_\_\_\_
- (9) Unknown

## 14. Ejection Medium

Ø

- (0) No ejection
- (1) Door/hatch/tailgate
- (2) Nonfixed roof structure
- (3) Fixed glazing
- (4) Nonfixed glazing (specify): \_\_\_\_\_
- (5) Integral structure
- (8) Other medium (specify): \_\_\_\_\_
- (9) Unknown

15. Medium Status (Immediately Prior To Impact) Ø

- (0) No ejection
- (1) Open
- (2) Closed
- (3) Integral structure
- (9) Unknown

## 16. Entrapment

Ø

(NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)

- (0) Not entrapped
- (1) Entrapped
- (9) Unknown

## RESTRAINT SYSTEM EVALUATION

17. Manual (Active) Belt System Availability 4

- (0) None available
- (1) Belt removed/destroyed
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt available—type unknown

*Integral Belt Partially Destroyed*

- (6) Shoulder belt (lap belt destroyed/removed)
- (7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

18. Manual (Active) Belt System Use 4

- (00) None used, not available, or belt removed/destroyed
- (01) Inoperative (specify): \_\_\_\_\_

(02) Shoulder belt \_\_\_\_\_

(03) Lap belt \_\_\_\_\_

(04) Lap and shoulder belt \_\_\_\_\_

(05) Belt used—type unknown \_\_\_\_\_

(08) Other belt used (specify): \_\_\_\_\_

(12) Shoulder belt used with child safety seat \_\_\_\_\_

(13) Lap belt used with child safety seat \_\_\_\_\_

(14) Lap and shoulder belt used with child safety seat \_\_\_\_\_

(15) Belt used with child safety seat—type unknown \_\_\_\_\_

(18) Other belt used with child safety seat (specify): \_\_\_\_\_

(99) Unknown if belt used \_\_\_\_\_

19. Proper Use of Manual (Active) Belts 1

- (0) None used or not available
- (1) Belt used properly
- (2) Belt used properly with child safety seat

*Belt Used Improperly*

- (3) Shoulder belt worn under arm
- (4) Shoulder belt worn behind back or seat
- (5) Belt worn around more than one person
- (6) Lap belt worn on abdomen
- (7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

(8) Other improper use of manual belt system (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

20. Manual (Active) Belt Failure Modes During Accident 1

- (0) No manual belt used
- (1) No manual belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

(6) Broken retractor \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other manual belt failure (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

21. Air Bag System Availability/Function 0

- (0) Not equipped/not available
- (1) Air bag

*Non-functional*

(2) Air bag disconnected (specify): \_\_\_\_\_

(3) Air bag not reinstalled \_\_\_\_\_

(9) Unknown \_\_\_\_\_

22. Air Bag System Deployment 0

- (0) Not equipped/not available
- (1) Air bag deployed during accident (as a result of impact)
- (2) Air bag deployed inadvertently just prior to accident
- (3) Air bag deployed, accident sequence undetermined
- (4) Nondeployed
- (5) Unknown if deployed
- (6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
- (9) Unknown

23. Are There Indications of Air Bag System Failure? 0

- (0) Not equipped/not available
- (1) No
- (2) Yes (specify): \_\_\_\_\_

(9) Unknown \_\_\_\_\_

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use 8

- (0) None used
- (1) Police did not indicate restraint use
- (2) Shoulder belt
- (3) Lap belt
- (4) Lap and shoulder belt
- (5) Belt used, type not specified
- (6) Child safety seat
- (7) Other or automatic restraint (specify): \_\_\_\_\_

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown" \_\_\_\_\_

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant  
at This Occupant Position3

- (0) No head restraints
- (1) Integral—no damage
- (2) Integral—damaged during accident
- (3) Adjustable—no damage
- (4) Adjustable—damaged during accident
- (5) Add-on—no damage
- (6) Add-on—damaged during accident
- (8) Other (specify): \_\_\_\_\_

(9) Unknown

## 26. Seat Type (this Occupant Position)

Ø 2

- (00) Occupant not seated or no seat
- (01) Bucket
- (02) Bucket with folding back
- (03) Bench
- (04) Bench with separate back cushions
- (05) Bench with folding back(s)
- (06) Split bench with separate back cushions
- (07) Split bench with folding back(s)
- (08) Pedestal (i.e., column supported)
- (09) Other seat type (specify): \_\_\_\_\_

- (10) Box mounted seat (i.e., van type)
- (99) Unknown

## 27. Seat Performance (this Occupant Position)

1

- (0) Occupant not seated or no seat
- (1) No seat performance failure(s)
- (2) Seat adjusters failed
- (3) Seat back folding locks or "seat back" failed (specify): \_\_\_\_\_
- (4) Seat track/anchors failed
- (5) Deformed by impact of occupant
- (6) Deformed by passenger compartment intrusion (specify): \_\_\_\_\_

(7) Combination of above (specify): \_\_\_\_\_

(8) Other (specify): \_\_\_\_\_

(9) Unknown

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model Ø Ø Ø  
 (000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):  
 \_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat Ø  
 (0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):  
 \_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation Ø Ø  
 (00) No child safety seat  
  
*Designed for Rear Facing for This Age/Weight*  
 (01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):  
 \_\_\_\_\_  
 (09) Unknown orientation  
  
*Designed For Forward Facing for This Age/Weight*  
 (11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):  
 \_\_\_\_\_  
 (19) Unknown orientation  
  
*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*  
 (21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):  
 \_\_\_\_\_  
 (29) Unknown orientation  
  
 (99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage Ø Ø

32. Child Safety Seat Shield Usage Ø Ø

33. Child Safety Seat Tether Usage Ø Ø

Note: Options below applicable to  
 Variables OA31-OA33.  
 (00) No child safety seat

*Not Designed With Harness/Shield/Tether*

(01) After market harness/shield/tether  
 added, not used  
 (02) After market harness/shield/tether used  
 (03) Child safety seat used, but no after market  
 harness/shield/tether added  
 (09) Unknown if harness/shield/tether  
 added or used

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used  
  
 (99) Unknown if child safety seat used



**INJURY CONSEQUENCES**34. Injury Severity (Police Rating) ☒

- (0) O - No injury
- (1) C - Possible injury
- (2) B - Nonincapacitating injury
- (3) A - Incapacitating injury
- (4) K - Killed
- (5) U - Injury, severity unknown
- (6) Died prior to accident
- (9) Unknown

35. Treatment - Mortality ☒

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (specify):

*Nonfatal*

- (3) Hospitalization
- (4) Transported and released
- (5) Treatment at scene - nontransported
- (6) Treatment later
- (8) Treatment - other (specify):

(9) Unknown

36. Type Of Medical Facility (for Initial Treatment) ☒

- (0) Not treated at a medical facility
- (1) Trauma center
- (2) Hospital
- (3) Medical clinic
- (4) Physician's office
- (5) Treatment later at medical facility
- (8) Other (specify):

(9) Unknown

37. Hospital Stay ☒ ☒

- (00) Not Hospitalized
- Code the number of days (up through 60) that the occupant stayed in hospital.
- (61) 61 days or more
- (99) Unknown

99. Case Occupant ☒

- (0) Not Case Occupant
- (1) This is the Case Occupant
- (2) This is the Case Occupant in another case

38. Working Days Lost ☒ ☒

- Code the number of days (up through 60) that the occupant lost from work due to the accident
- (00) No working days lost
- (61) 61 days or more
- (62) Fatally injured
- (97) Not working prior to accident
- (99) Unknown

**STOP - GO TO VARIABLE 44 ON PAGE 7****VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER**39. Time to Death ☒ ☒

- Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 + n up through 30 days = 60)
- (00) Not fatal
- (96) Fatal - ruled disease
- (99) Unknown

40. 1st Medically Reported Cause of Death ☒ ☒41. 2nd Medically Reported Cause of Death ☒ ☒42. 3rd Medically Reported Cause of Death ☒ ☒

- Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
- (00) Not fatal or no additional causes
- (96) Mode of death given but specific injuries are not linked to cause of death. (specify):

(97) Other result (includes fatal ruled disease) (specify):

(99) Unknown

43. Number of Recorded Injuries for This Occupant ☒ ☒

- Code the actual number of injuries recorded for this occupant.
- (00) No recorded injuries
- (97) Injured, details unknown
- (99) Unknown if injured

**AUTOMATIC BELT SYSTEM**44. Automatic (Passive) Belt System Availability/ Function ☒

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

- (4) Automatic belts destroyed or rendered inoperative
- (9) Unknown

45. Automatic (Passive) Belt System Use ☒

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): \_\_\_\_\_

- (3) Automatic belt use unknown
- (9) Unknown

46. Automatic (Passive) Belt System Type ☒

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

47. Proper Use of Automatic (Passive) Belt System ☒

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

- (3) Automatic shoulder belt worn under arm
- (4) Automatic shoulder belt worn behind back
- (5) Automatic belt worn around more than one person
- (6) Lap portion of automatic belt worn on abdomen
- (7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): \_\_\_\_\_

- (8) Other improper use of automatic belt system (specify): \_\_\_\_\_
- (9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident ☒

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify): \_\_\_\_\_

- (6) Broken retractor
- (7) Combination of above (specify): \_\_\_\_\_
- (8) Other automatic belt failure (specify): \_\_\_\_\_

- (9) Unknown

49. Seat Orientation (this Occupant Position) ☒

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify): \_\_\_\_\_

- (9) Unknown

## Check the Primary Source Used In Determining Belt Use.

- [ ] Not equipped/not available/destroyed or rendered inoperative
- [ ] Vehicle inspection
- [ ] Official injury data
- [ ] Driver/occupant interview
- [X] Other (specify): P.A.R. / Police Officer

- [ ] Unknown if belt used

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?

NO ☒

YES [ ]

UPDATE CANDIDATE?

NO ☒

YES [ ]

**STOP - VARIABLES 50 THROUGH 53 ARE  
COMPLETED BY THE ZONE CENTER****TRAUMA DATA**

50. Glasgow Coma Scale (GCS) Score 0 0  
(at Medical Facility)  
(00) Not injured  
(01) Injured - not treated at medical facility  
(02) No GCS Score at medical facility  
(03-15) Code the actual value of the  
initial GCS Score recorded at medical  
facility.  
(97) Injured, details unknown  
(99) Unknown if injured

51. Was the Occupant Given Blood? 1  
(1) No - blood not given  
(2) Yes - blood given  
(specify units): \_\_\_\_\_  
(9) Unknown if blood given

52. Arterial Blood Gases (ABG) -  $\text{HCO}_3$  0 0  
(00) Not injured  
(01) Injured, ABGs not measured or reported  
(02-50) Code the actual value of the  $\text{HCO}_3$   
(96) ABGs reported,  $\text{HCO}_3$  unknown  
(97) Injured, details unknown  
(99) Unknown if injured

**BELT USE DETERMINATION**

53. Primary Source of Belt Use Determination 8  
(0) Not equipped/not available/destroyed  
or rendered inoperative  
(1) Vehicle inspection  
(2) Official injury data  
(3) Driver/occupant interview  
(8) Other (specify): P.A.R.  
(9) Unknown if belt used



U.S. Department of Transportation  
National Highway Traffic Safety  
Administration

**CRASHPC PROGRAM SUMMARY**

(All Measurements in Metric)

NATIONAL ACCIDENT SAMPLING SYSTEM  
CRASHWORTHINESS DATA SYSTEM

**Identifying Title**

Primary  
Sampling Unit

DSI-93-AB-018  
Case No.-Stratum

01  
Accident Event  
Sequence No.

9 4  
Date (Month, day, year) of Run

**CRASHPC Vehicle Identification**

Vehicle 1

1991TOYOTACELICA ST01

Vehicle 2

1990TOYOTASRS 4x4 Pickup02

Year

Make

Model

NASS  
Veh. No.**GENERAL INFORMATION****VEHICLE 1**

Size (2669)

2

Weight

1213 + 60 + 0 = 1273 kg  
Curb Occupant(s) Cargo

CDC (132) 12 F D E W 2PDOF (-180 to +180) 0 0 5°

Stiffness

2**VEHICLE 2**

Size 2932

4

Weight

1330 + 63 + 0 = 1393 kg  
Curb Occupant(s) Cargo

CDC (139) 06 B Y L W 1PDOF (-180 to +180) -175°

Stiffness

8**SCENE INFORMATION**

Rest and Impact Positions [ ] No, Go To Damage Information [ ] Yes

**VEHICLE 1**Rest  
Position

X \_\_\_\_\_ m

Y \_\_\_\_\_ m

PSI \_\_\_\_\_ °

Impact  
Position

X \_\_\_\_\_ m

Y \_\_\_\_\_ m

PSI \_\_\_\_\_ °

Slip Angle(-180 to +180)

\_\_\_\_\_ °

**VEHICLE 2**Rest  
Position

X \_\_\_\_\_ m

Y \_\_\_\_\_ m

PSI \_\_\_\_\_ °

Impact  
Position

X \_\_\_\_\_ m

Y \_\_\_\_\_ m

PSI \_\_\_\_\_ °

Slip Angle (-180 to +180)

\_\_\_\_\_ °

**VEHICLE MOTION**

Sustained Contact [ ] No [ ] Yes

**VEHICLE 1**

Skidding (Rotation) [ ] No [ ] Yes

Skidding Stop Before Rest [ ] No [ ] Yes

End of Rotation Position X \_\_\_\_\_ m

Y \_\_\_\_\_ m

PSI \_\_\_\_\_ °

Curved Path [ ] No [ ] Yes

Point on Path

X \_\_\_\_\_ m Y \_\_\_\_\_ m

Rotation Direction [ ] None [ ] CW [ ] CCW

Rotation &gt;360° [ ] No [ ] Yes

**VEHICLE 2**

Skidding (Rotation) [ ] No [ ] Yes

Skidding Stop Before Rest [ ] No [ ] Yes

End of Rotation Position X \_\_\_\_\_ m

Y \_\_\_\_\_ m

PSI \_\_\_\_\_ °

Curved Path [ ] No [ ] Yes

Point on Path

X \_\_\_\_\_ m Y \_\_\_\_\_ m

Rotation Direction [ ] None [ ] CW [ ] CCW

Rotation &gt;360° [ ] No [ ] Yes

## National Accident Sampling System-Crashworthiness Data System: CRASHPC Program Summary

## FRICTION INFORMATION

Coefficient of Friction . \_\_\_\_\_  
 Rolling Resistance Option \_\_\_\_\_

## Vehicle 1 Rolling Resistance

LF \_\_\_\_\_ RF \_\_\_\_\_  
 LR \_\_\_\_\_ RR \_\_\_\_\_

## Vehicle 2 Rolling Resistance

LF \_\_\_\_\_ RF \_\_\_\_\_  
 LR \_\_\_\_\_ RR \_\_\_\_\_

## TRAJECTORY INFORMATION

Trajectory Data [ ] No [ ] Yes

If No, Go To Damage Information

## Vehicle 1 Steer Angles

LF \_\_\_\_\_ ° RF \_\_\_\_\_ °  
 LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

## Vehicle 2 Steer Angles

LF \_\_\_\_\_ ° RF \_\_\_\_\_ °  
 LR \_\_\_\_\_ ° RR \_\_\_\_\_ °

Terrain Boundary [ ] No [ ] Yes

## First Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

## Second Point

X \_\_\_\_\_ m Y \_\_\_\_\_ m

Secondary Coefficient of Friction . \_\_\_\_\_

## DAMAGE INFORMATION

## VEHICLE 1

Damage Length L 1 4 4 cm

Crush Depths  
 C<sub>1</sub> Ø Ø Ø cm  
 C<sub>2</sub> Ø Ø Ø cm  
 C<sub>3</sub> Ø 1 1 cm  
 C<sub>4</sub> Ø 1 0 cm  
 C<sub>5</sub> Ø 1 7 cm  
 C<sub>6</sub> Ø Ø 6 cm

Damage Offset D ± Ø Ø Ø cm

## VEHICLE 2

Damage Length L 1 6 Ø cm

Crush Depths  
 C<sub>1</sub> Ø Ø 7 cm  
 C<sub>2</sub> Ø Ø 7 cm  
 C<sub>3</sub> Ø 1 7 cm  
 C<sub>4</sub> Ø 1 2 cm  
 C<sub>5</sub> Ø Ø 3 cm  
 C<sub>6</sub> Ø Ø 2 cm

Damage Offset D ± Ø 3 Ø cm

IF THIS COMMON IMPACT WAS WITH A MOTOR VEHICLE NOT IN TRANSPORT, FILL IN THE INFORMATION BELOW:

Model Year: \_\_\_\_\_

Make: \_\_\_\_\_

Model: \_\_\_\_\_

VIN: \_\_\_\_\_

The Weight, CDC, Scene Data and Damage Information for this vehicle should be recorded above.

Complete and ATTACH the appropriate vehicle damage sketch and dimensions to the Form.

## SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

DSI-93-AB-018

SPEED CHANGE (DAMAGE)	VEH #1	TOTAL(KPH)	LONG.(KPH)	LAT.(KPH)	ANG.(DEG)
	VEH #1	20.4	-20.3	-1.8	5.0
	VEH #2	18.6	18.5	1.6	-175.0

ENERGY DISSIPATED BY DAMAGE VEH#1: 12500.7 JOULES VEH#2: 26863.4 JOULES

SUMMARY OF DAMAGE DATA  
VEHICLE # 1(\* INDICATES DEFAULT VALUE)  
VEHICLE # 2

TYPE-----CATEGORY 2  
 STIFFNESS---CATEGORY 2  
 WEIGHT----- 1273.0 KGS  
 CDC-----12FDEW2  
 L----- 144.0 CM.  
 C1----- .0 CM.  
 C2----- .0 CM.  
 C3----- 11.0 CM.  
 C4----- 10.0 CM.  
 C5----- 17.0 CM.  
 C6----- 6.0 CM.  
 D----- .0 CM.  
 RHO----- 1.00 \*  
 ANG----- 5.0 DEG.  
 D'----- 22.1 CM.

TYPE-----CATEGORY 4  
 STIFFNESS---CATEGORY 8  
 WEIGHT----- 1393.0 KGS  
 CDC-----06BYLW1  
 L----- 160.0 CM.  
 C1----- 7.0 CM.  
 C2----- 7.0 CM.  
 C3----- 17.0 CM.  
 C4----- 12.0 CM.  
 C5----- 3.0 CM.  
 C6----- 2.0 CM.  
 D----- -30.0 CM.  
 RHO----- 1.00 \*  
 ANG----- -175.0 DEG.  
 D'----- -40.2 CM.

## DIMENSIONS AND INERTIAL PROPERTIES

A1 = 117.6 CM.  
 B1 = 127.3 CM.  
 TR1 = 138.7 CM.  
 I1 = 243284.1 NEWT-SEC\*\*2-CM  
 M1 = 12.779 NEWT-SEC\*\*2/CM  
 XF1 = 211.6 CM.  
 XR1 = -232.7 CM.  
 YS1 = 85.3 CM.

A2 = 138.9 CM.  
 B2 = 150.4 CM.  
 TR2 = 157.0 CM.  
 I2 = 337485.4 NEWT-SEC\*\*2-CM  
 M2 = 13.983 NEWT-SEC\*\*2/CM  
 XF2 = 251.0 CM.  
 XR2 = -289.6 CM.  
 YS2 = 97.8 CM.

## SUMMARY OF CRASHPC RESULTS (USING SPINOUT)

DSI-93-AB-018

SPEED CHANGE (DAMAGE)	VEH #1	TOTAL(MPH)	LONG.(MPH)	LAT.(MPH)	ANG.(DEG)
	VEH #1	12.7	-12.6	-1.1	5.0
	VEH #2	11.6	11.5	1.0	-175.0

ENERGY DISSIPATED BY DAMAGE VEH#1: 9218.8 FT-LB. VEH#2: 19810.8 FT-LB.

SUMMARY OF DAMAGE DATA  
VEHICLE # 1(\* INDICATES DEFAULT VALUE)  
VEHICLE # 2

TYPE-----CATEGORY 2  
 STIFFNESS---CATEGORY 2  
 WEIGHT----- 2806.4 LBS.  
 CDC-----12PDEW2  
 L----- 56.7 IN.  
 C1----- .0 IN.  
 C2----- .0 IN.  
 C3----- 4.3 IN.  
 C4----- 3.9 IN.  
 C5----- 6.7 IN.  
 C6----- 2.4 IN.  
 D----- .0 IN.  
 RHO----- 1.00 \*

TYPE-----CATEGORY 4  
 STIFFNESS---CATEGORY 8  
 WEIGHT----- 3071.0 LBS.  
 CDC-----06BYLW1  
 L----- 63.0 IN.  
 C1----- 2.8 IN.  
 C2----- 2.8 IN.  
 C3----- 6.7 IN.  
 C4----- 4.7 IN.  
 C5----- 1.2 IN.  
 C6----- .8 IN.  
 D----- -11.8 IN.  
 RHO----- 1.00 \*  
 ANG----- -175.0 DEG.  
 D'----- -15.8 IN.

## DIMENSIONS AND INERTIAL PROPERTIES

A1 = 46.3 IN.  
 B1 = 50.1 IN.  
 TR1 = 54.6 IN.  
 I1 = 21533.5 LB-SEC\*\*2-IN  
 M1 = 7.297 LB-SEC\*\*2/IN  
 XF1 = 83.3 IN.  
 XR1 = -91.6 IN.  
 YS1 = 33.6 IN.

A2 = 54.7 IN.  
 B2 = 59.2 IN.  
 TR2 = 61.8 IN.  
 I2 = 29871.5 LB-SEC\*\*2-IN  
 M2 = 7.985 LB-SEC\*\*2/IN  
 XF2 = 98.8 IN.  
 XR2 = -114.0 IN.  
 YS2 = 38.5 IN.

**AIRBAG SUPPLEMENT**

1

**ACCIDENT SUMMARY**

1. Accident Date: *Summer / WEEKDAY*
2. Police Investigated ☐ 1  
 (1) Yes  
 (2) No  
 (3) Unknown  
 Agency:  
 City:  
 County: *VA*
3. General Locality ☐ 3  
 (1) Freeway, Limited Access  
 (2) Urban (City)  
 (3) Urban-Rural (mixed)  
 (4) Rural, Fields
4. Configuration (First Harm) ☐ 1  
 (0) Struck Object or Ped  
 (1) Rear-End  
 (2) Head-On  
 (3) Rear-to-Rear  
 (4) Angle  
 (5) Sideswipe-Same Direction  
 (6) Sideswipe-Opposite Dir.  
 (7) Noncollision  
 (8) Nonimpact Deployment  
 (9) Unknown
5. Fire Involved ☐  $\emptyset$   
 (0) None  
 (1) Airbag Vehicle  
 (2) Other Vehicle  
 (3) Both Vehicles  
 (9) Unknown
6. Vehicles Involved ☐ 2
7. Persons Involved ☐ 2
8. Injured Persons ☐  $\emptyset$
9. Maximum AIS in Accident ☐ N/A

**AIRBAG VEHICLE INSPECTION**

10. Date Vehicle Inspected: *9/3*
11. Reason Vehicle Not Inspected ☐ 1  
 (0) Not Required  
 (1) Inspection Completed  
 (2) Cannot be Located  
 (3) Repaired or Destroyed  
 (5) Refusal or Impounded  
 (7) Other:
12. Impact Data Obtained ☐ 4  
 (0) No Data Obtained  
 (1) CDC Only  
 (2) Crush Profile Only  
 (3) Trajectory Data Only  
 (4) CDC and Crush Profile  
 (5) CDC and Trajectory  
 (6) Crush and Trajectory  
 (7) CDC, Crush, and Trajectory
13. Basis of Delta-V ☐ 1  
 (0) Not Computed (Unknown why)  
 (1) CRASH - Damage Only  
 (2) CRASH - Damage + Traj  
 (3) OLDMISS  
 (4) POLES  
 (5) Unknown Basis  
 (6) One Vehicle Beyond Scope  
 (7) Collision Beyond Scope  
 (8) Insufficient Data

**VEHICLE HISTORY**

14. Prior Impacts for AB Vehicle? ☐ 1  
 (1) Yes  
 (2) No  
 (9) Unknown
15. Has Any Prior Maintenance or Service Been Performed on System ☐ 2  
 (1) Yes  
 (2) No  
 (9) Unknown  
 Describe:



**AIRBAG SUPPLEMENT**

2

**AIRBAG VEHICLE**

Fleet:

VIN: JT2AT86F5M0XXXXX

Mileage: 19,857 km (12,339 m.km)

**SYSTEM READINESS LAMP**

16. Pre-Impact Lamp Condition 9
- (1) Functioning/Proved Out
- (2) Inoperative
- (9) Unknown
17. Driver's Report of Pre-Impact Flashing 99
- (00) No Flashing Reported
- (01) Continuous Flashing
- (02)
- Number of Flashes: \_\_\_\_
- (11)
- (12) Constant Light
- (19) Flashing, Unknown Number
- (88) Not Applicable, System Removed
- (99) Unknown
18. Period of Pre-Impact Flashing 9
- (0) No Flashing
- (1) Same Day as Impact
- (2) Prior Day
- (3) Prior Two Days
- (4) Prior Week
- (5) Prior Month
- (6) Over One Month
- (9) Unknown
19. Post-Impact Lamp Condition 2
- (1) Functioning/Proved Out
- (2) Inoperative
- (9) Unknown
20. Post-Impact Flashing 99
- (00) No Flashing Reported
- (01) Continuous Flashing
- (02)
- Number of Flashes: \_\_\_\_
- (11)
- (12) Constant Light
- (19) Flashing, Unknown Number
- (88) Not Applicable, System Removed
- (99) Unknown

21. Airbag Vehicle First Harmful Event 13
- (01) Fire or explosion
- (02) Immersion
- (03) Gas Inhalation
- (04) Fell from vehicle
- (05) Injured in vehicle
- (06) Other noncollision (specify):
- (07) Overturn
- (08) Jackknife
- COLLISION WITH:
- (09) Pedestrian
- (10) Pedalcyclist
- (11) Railway train
- (12) Animal
- (13) Motor vehicle in transport (same roadway)
- (14) Motor vehicle in transport (other roadway)
- (15) Parked motor vehicle
- (16) Other type nonmotorist (specify):
- (17) Thrown or falling object
- (18) Boulder
- COLLISION WITH FIXED OBJECT
- (20) Building
- (21) Impact attenuator/crash cushion
- (22) Bridge pier or abutment
- (23) Bridge parapet end
- (24) Bridge rail
- (25) Guardrail
- (26) Concrete traffic barrier
- (27) Median barrier
- (28) Other longitudinal barrier (specify):
- (29) Highway/traffic sign post
- (30) Overhead sign support
- (31) Luminaire/light support
- (32) Utility pole
- (33) Other post, pole, or support
- (34) Culvert
- (35) Curb
- (36) Ditch
- (37) Embankment-earth
- (38) Embankment-rock, stone, or concrete
- (39) Fence
- (40) Wall
- (41) Fire hydrant
- (42) Shrubbery
- (43) Tree
- (44) Other fixed object (specify):
- (45) Pavement surface irregularity
- (99) Unknown



## AIRBAG SUPPLEMENT

4

### AIRBAG SYSTEM DAMAGE

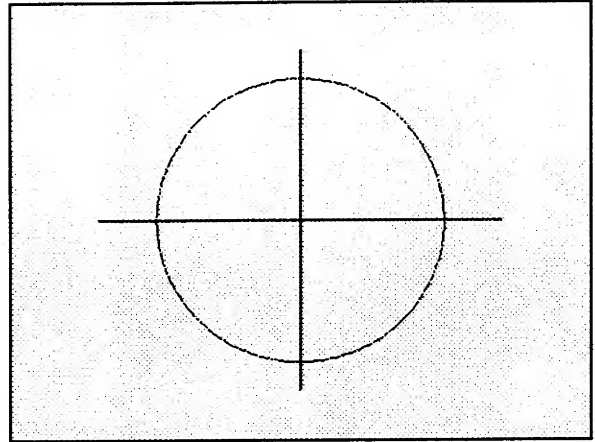
CODES: (1) Yes, Damaged  
(2) No, Intact  
(3) Not Applicable  
(9) Unknown

- |     |  |  |
|-----|--|--|
| 41. | Airbag Module  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 42. | Left Front Sensor  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 43. | Center Front Sensor  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 44. | Right Front Sensor   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 45. | Rear Cowl Sensor   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> |
| 46. | Diagnostic Module  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 47. | Wiring   | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 48. | Knee Diverter  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">3</div> |
| 49. | Indication of disconnected<br>or loose electrical<br>connectors  | <div style="border: 1px solid black; padding: 2px; display: inline-block;">2</div> |
| 50. | Condition of Deployed Bag<br>(1) Bag intact<br>(2) Split or torn<br>(3) Cut by object in impact<br>(4) Cut after accident<br>(5) Other<br>(8) NA (not deployed)<br>(9) Unknown | <div style="border: 1px solid black; padding: 2px; display: inline-block;">8</div> |

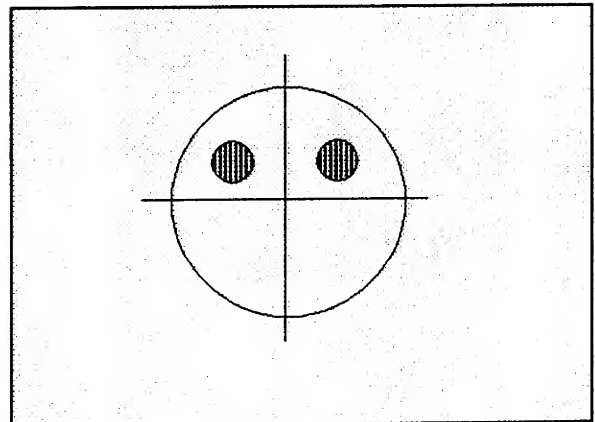
### DESCRIBE SYSTEM AND BAG DAMAGE:

NOTE DAMAGE AND CONTACT MARKS ON  
AIRBAG DIAGRAMS BELOW:

#### FRONT



#### BACK



**AIRBAG SUPPLEMENT**

5

**OCCUPANTS OF AIRBAG CAR**

51. Number of Occupants in Vehicle

☒

52. Number of Injured Persons

☒

53. Maximum AIS in Airbag Vehicle

(0) No Injury

(1-6) AIS Severity

(7) Injured, unknown severity

(9) Unknown

☒**DRIVER**

Age: 29

Sex: FEMALE

54. Number of Driver Injuries

☒

55. Source of Best Injury Data

(0) Not injured

(1) Autopsy

(2) Hospital Medical Records

(3) Emergency Room only

(4) Private physician, clinic

(5) Lay Coroner Report

(6) EMS Personnel

(7) Interviewee

(8) Police

(9) Unknown

☒**MAXIMUM AIS BY BODY REGION**

REGION	MAX AIS	CONTACT
--------	---------	---------

Head/Neck/Face	_____	_____
----------------	-------	-------

Chest	_____	_____
-------	-------	-------

Abdomen	_____	_____
---------	-------	-------

Legs/Hips	_____	_____
-----------	-------	-------

Other (Arms)	_____	_____
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Driver		
Maximum	N/A	N/A

**EJECTION**

Extent: NONE

Portal:  
\_\_\_\_\_**OTHER VEHICLE:**

Maximum AIS	N/A
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Prime/Deploy Impact w AB Vehicle Event Number	1
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CDC: 06BYLW1

Total Delta V	019 KPH
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Make: TOYOTA

Model Year: 1990

Model: SR5

Body Type: 4X4 PICKUP

**NOTES:**

**AIRBAG SUPPLEMENT**

6

**DRIVER BELT USAGE:** (1) Used (2) Not Used (9) Unknown

1

Evidence: *Slight loading*

**DRIVER POSTURE:** Any comments Recorded (1) Yes, (2) No

2

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs, and feet. Also note hand and arm position. Did driver brace before crash? Describe:

**DRIVER FOREIGN OBJECTS:** Comments Recorded (1) Yes, (2) No

2

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelry play any role?:

**DRIVER COMMENTS:** Comments Recorded (1) Yes, (2) No

2

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

**PASSENGER-AIRBAG CONTACT:** (1) Yes, (2) No, (9) Unknown

2

Describe:

PAGE 1 OF 1 PAGES

## POLICE ACCIDENT REPORT

DMV COPY.

FR 300P (REV. 1/90)

ACCIDENT DATE Month Day Year	DAY OF WEEK MON	TIME AM PM	MILE POST NUMBER	RAILROAD CROSSING NO. NO. IF WITHIN 150 FEET
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CITY OR TOWN	LANDMARKS AT SCENE	NUMBER OF VEHICLES 2	OFFICIAL USE ONLY
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ROUTE	AT INTERSECTION WITH	OR 300	MILES	FEET	N	S	E	W
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VEHICLE NO. 1	VEHICLE NO. 2 (OR PEDESTRIAN)
---------------	-------------------------------

DRIVER	OCCUPATION Cust service	OCCUPATION Cust service
ADJ	YEARS OF DRIVING EXPERIENCE 11	YEARS OF DRIVING EXPERIENCE 20
	P CODE	ZIP CODE

DATE OF BIRTH Month Day Year	SEX M	DATE OF BIRTH Month Day Year	SEX F
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VEHICLE OWNER'S NAME (LAST, FIRST, MIDDLE) S/M	VEHICLE OWNER'S NAME (LAST, FIRST, MIDDLE) S/M
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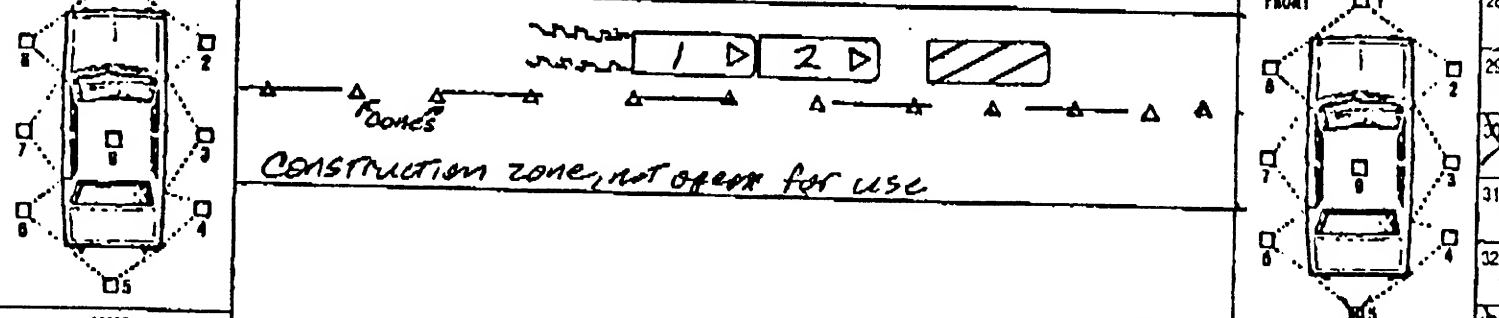
ADDRESS (STREET & NO.)	ADDRESS (STREET & NO.)
------------------------	------------------------

CITY	STATE	ZIP CODE	CITY	STATE	ZIP CODE
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MAKE & TYPE OF VEHICLE (SHOW MOPED, MOTORCYCLE, AMBULANCE, ETC.) TOYOTA 2DR	YEAR 91	REPAIR COST 3000	MAKE & TYPE OF VEHICLE (SHOW MOPED, MOTORCYCLE, AMBULANCE, ETC.) TOYOTA PU	YEAR 90	REPAIR COST 1500
--	------------	---------------------	---	------------	---------------------

DAMAGE TO PROPERTY OTHER THAN VEHICLES	OBJECT STRUCK (TREE, FENCE, ETC.)	OWNER'S NAME (LAST, FIRST, MIDDLE)	ADDRESS	REPAIR COST
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VEHICLE NO. 1 DAMAGE CHECK POINTS OF IMPACT	ACCIDENT DIAGRAM	VEHICLE NO. 2 DAMAGE CHECK POINTS OF IMPACT
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SPEED	BEFORE ACCIDENT	LIMIT	MAXIMUM SAFE
40	35	0	0

VEHICLE NO. 1 DAMAGES:	OVERTURNED 3	UNDERCARRIAGE 8	BY FIRE 7	VEHICLE NO. 2 DAMAGES:	OVERTURNED 3	UNDERCARRIAGE 8	BY FIRE 7
UNKNOWN 1	MOTOR 4	TOTAL 5	OTHER 8	UNKNOWN 1	MOTOR 4	TOTAL 5	OTHER 8

ACCIDENT DESCRIPTION: #2 was north bound on stop suddenly for traffic due to construction and had to stop in time and struck #2

OFFENSES CHARGED: #1 Reckless Driving

9	10	11	12	13	14	15	16	NAMES OF INJURED - IF DECEASED, INCLUDE DATE OF DEATH
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17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
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REPORTED OFFICER'S NAME	DEPARTMENT NAME AND ADDRESS	VIEWING OFFICER	DATE REPORT FILED
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